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Biological
& Medical
Serials

THE OPHTHALMIC RECORD

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The November number of the OPHTHALMIC RECORD will contain, amongst others, an original article by F. H. Verhoeff, Two New Astigmatic Charts; one by A. W. Stirling, The Operative Treatment of Chronic Glaucoma; one by James M. Ball, Intraocular Hemorrhage Following Cataract Extraction, with Recovery of Useful Vision. There will also appear Editorials, Reviews, Society Reports, and Items of Interest to the Profession.

The RECORD particularly desires short practical papers on any subject connected with Ophthalmology. These will be published at as early a date as possible. It is understood that, unless otherwise arranged, original articles when accepted are contributed to the RECORD exclusively. Illustrative cuts will be made at the expense of the journal, and proofs for correction will be sent to authors when desired. Reprints with covers are furnished at cost. One hundred of these will be presented to authors *gratis* when a request for them is written on the original manuscript. The RECORD will be issued monthly, and each number will contain about 54 pages of reading matter.

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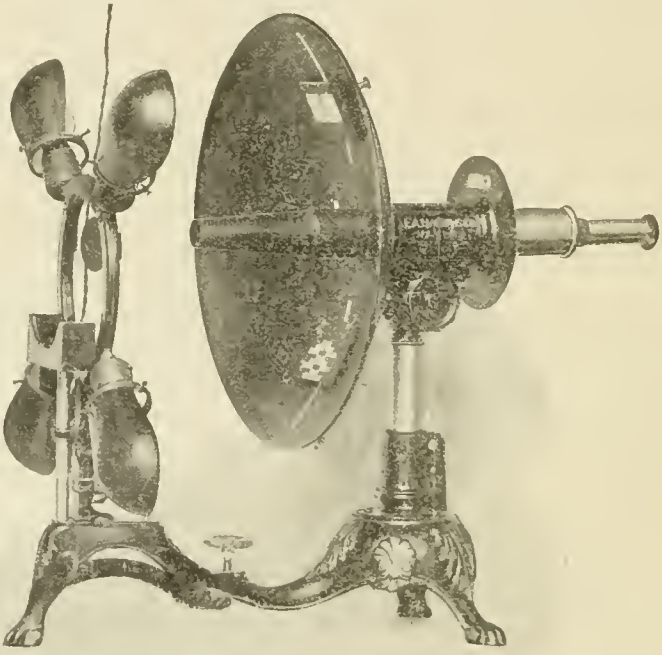

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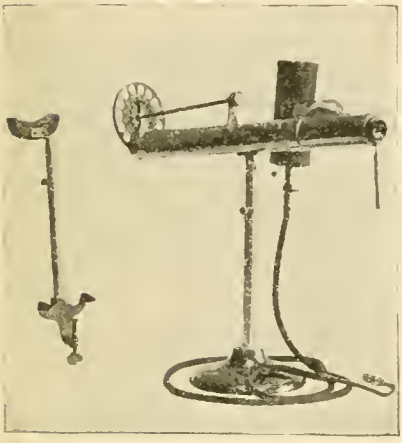

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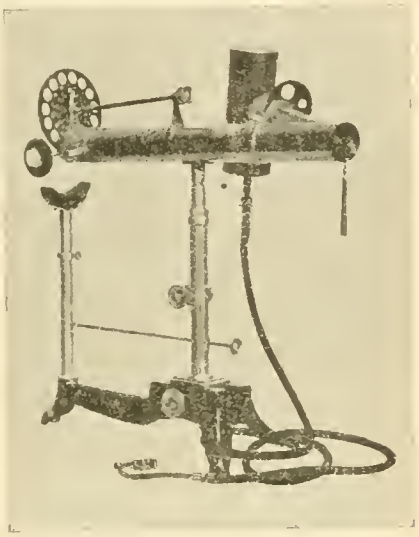
with base complete



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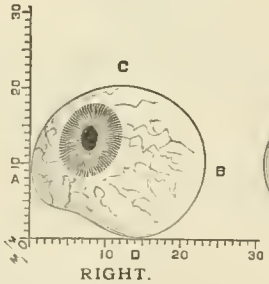

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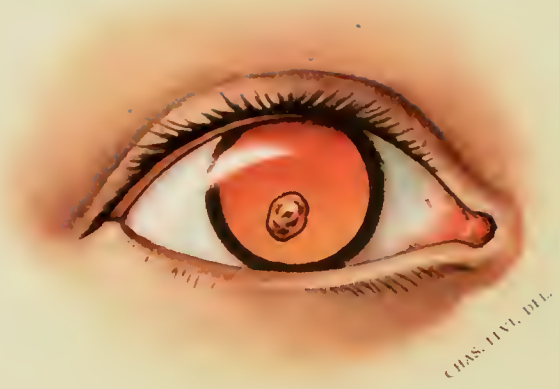

CYST OF THE VITREOUS.

J. Oscroft Tansley.

THE

OPHTHALMIC RECORD

A MONTHLY REVIEW OF THE PROGRESS OF OPHTHALMOLOGY.

VOLUME VIII. CHICAGO, OCTOBER, 1899. No. 10. NEW SERIES.

ORIGINAL ARTICLES.

CYST OF THE VITREOUS.*

BY J. OSCROFT TANSLEY, M.D.,

NEW YORK.

With Colored Frontispiece.

I have the pleasure of bringing before the society this year an interesting case of cyst of the vitreous. It is, as I take it, a simple cyst as we understand that term in surgery.

A cyst may be defined as a cavity bounded by a distinct envelope composed of fibrous tissue lined with endothelium and called a cyst wall; or it may be covered by epithelium and certain secreting structures: a cyst may result from the increase of the secretion of an already formed space or cavity by extravasation into it, or the cavity may be a new formation.

The patient, L—— B——, age 17, is the son of a practicing physician of New York City, and he came to me for advice January 4, 1897, saying that his sight in the right eye had been defective for about a year; there was no pain or discomfort of any kind, but he thought he could not see as well as he had previously; there had been no change for the past year, and it had become no worse than when he first discovered that it was affected.

R.V. = 20/100; W. +1/48 = 20/70.
L.V. = 20/20+; H.M. = 1/72.

*Patient shown at the meeting of Am. Ophth. So. at New London, Conn., July, 1899.

After putting beneath the lid a disc of cocaine and homatropia, and waiting for full dilatation of the pupil:

R.V.=20/200; W.+1/48=20/100.

L.V.=20/20+; H. M.=1/72.

Ophthalmoscopic examination shows—

L.E. Normal and emmetropic.

R.E. Hyperopic Fundus healthy. Examining with a +1/6, a very pretty picture of a floating body in the vitreous was seen, and I present a color drawing which illustrates the condition very charmingly. It was drawn by an artist friend, Charles Levi, whom I taught to use the ophthalmoscope in order to see this particular case. The floating body was spheroidal, of about the diameter of the optic disc, and at that time occupied about the center of the vitreous chamber. Its specific gravity was apparently but a trifle greater than that of the vitreous body, for when the eye was quiet it slowly settled to the lower portion of the cavity, and remained there in contact with the retina, but the slightest movement of the eyeball caused it to jump about with such rapidity that at first I thought there was more than one. When the head was held forward it would approximate the anterior portion of the cavity, and when the head was thrown backward and held quiet it would settle toward the disc, so that apparently, if there is such a condition as fluid vitreous, this vitreous was evidently in that condition. There certainly was no septa in the vitreous sufficiently strong to support this body. It had no attachment with any other part of the eye, and would rotate in varying directions upon its center, balloon-like, although it generally retained one erect position, seemingly because the dependent portion was a trifle the heavier. It was irregularly spherical, with small indentations, somewhat resembling a potato, and this simile was made still more positive by there being spots and lines of pigment upon the capsule. It had a distinct capsule, which could be clearly made out at the edges by reason of its different refraction, and this capsule was transparent excepting at its pigmented parts. The spots of pigment upon the posterior surface could be distinctly seen through the capsule and contents of the body, and recognized as being posterior to the anterior surface by their different motion or parallax.

The spheroid was itself transparent, or nearly so, and were it not for the delicate boundary line caused by the refraction of the capsule at the edges, and the spots and lines of pigment upon its surface, the body would be invisible. There was nothing white, opaque or fibrous about the body. At first I thought it might be a dead cysticercus; then I thought it might be a filaria, because Kuhnt describes "a sharply con-

toured glancing white bladder about the size of the optic disc," which was removed and recognized as filaria.

I have examined this patient repeatedly since first seeing him, and I can see no change in the appearance or condition. I have held myself in readiness to remove this body should it show any tendency to cause inflammatory or glaucomatous symptoms, but it is apparently benign, although the presence of the pigment upon its capsule would indicate that at some time there had been inflammatory action. I can offer no suggestion as its origin.

No. 28 West Forty-third St., New York.

REPORT OF SEVEN CASES OF RETINAL SEQUELÆ OF DISEASES AFFECTING UNITED STATES TROOPS IN CUBA AND PORTO RICO. *

BY W. K. ROGERS, M. D.

COLUMBUS, OHIO.

Illustrated.

The following cases came under observation at the writer's clinic at the State Street Dispensary soon after the return of the United States troops from the recent campaign in Cuba and Porto Rico: the first four, through the courtesy of Col. Pope, Surgeon in Chief at the Columbus Barracks, and Drs. Kennedy and Pitcher, of the 17th U. S. Infantry, and Dr. Wilcox, who was at that time on special duty at the Post: one of the remaining three was from this regiment, and came to the Dispensary without being referred: the last two had been in the 4th Ohio and came after being mustered out. All had suffered from some of the various febrile disturbances encountered by the troops during their stay in these countries, and had shared the common experience as to rations, which were so often said to have been in a state of decomposition before becoming available, and together comprise a group which is more interesting than instructive, as the material is presented entirely from a clinical point of view, there being no opportunity to offer any contribution which might help to systematize the rather unsatisfactory state of applied pathology of ophthalmoscopic appearances.

It will be noticed that while the title of this report mentions only retinal lesions, in several instances other structures were involved, and in one the retinal disturbance was probably secondary to a nerve lesion.

Through the kindness of Drs. Kennedy and Pitcher it was possible to

*Read before Section on Ophthalmology American Medical Association, Columbus, O., June, 1899.

keep track of the treatment of the cases which had been sent by them and to obtain some details of the histories of their original illnesses — sufficient to corroborate the statements which they made concerning their nature.

Case I.—Oct. 8, '98, Private H. E., age 20, very dark hair and eyes and swarthy skin, was sent on account of impaired vision of left eye. He had had yellow fever two months before, and had made a fairly prompt recovery. He first noticed the impairment of vision about the time of his return to this country — a month ago.

There had been some pain in this eye, but there was none at this time, and no tenderness during movement nor upon pressure, although, of course, this may formerly have existed. No specific history and no rheumatic nor gouty tendency.

Vision, under mydriatic, O. D. $5/9 + .25 + .50\,ax.75^\circ = 5/5$

O. S. $5/100 + .75 + 1.\,ax\ .90^\circ = 5/100.$

Field, O. D. normal: O. S. red and blue in normal relation, perhaps slightly contracted, white contracted to about 30° in all directions — considerably within the blue area, and somewhat within the red.

Ophthalmoscopic examination showed a normal fundus in the right eye. The left disc corresponded in appearance to the right, but the macula stood out in sharper contrast to the surrounding tissues which were comparatively pale and glistening, having an œdematous appearance which was accentuated by the deeply pigmented back-ground of the fundus in general.

The existence of this œdematous condition of the central portion of the retina was made more positive by its subsequent gradual subsidence under potassium iodide and pilocarpine, to which strychnine was added later, until it was impossible to detect any difference in the fundus of either eye. How much of this change was due to treatment, of course, is problematical. The patient was kept under observation only a week before beginning treatment, and during this time the appearance remained unchanged. It would be impossible to say just when it began to alter, but a decided difference could be noted in three weeks from the time when treatment was begun, and four weeks later subsidence was complete. Vision, however, remained unimproved and the field unchanged when last seen — Dec. 8, '98. It was concluded that there had been a retrobulbar neuritis in addition to the localized œdema of the retina.

During the five months that the patient was under observation several careful blood examinations were made which showed no abnormality in hæmoglobin or corpuscles, and repeated urinalysis was negative.

Case II.—Sergeant W. H. R., age 24. Had irregular intermittent fever in Cuba for three weeks, two months before, and is referred by Dr. Pitcher on account of impaired vision, which has persisted ever since. Patient is about 30 pounds under weight, very pale, skin and mucous membranes having a yellowish hue, and suffers from dyspnœa and palpitation on exertion. There is a rough hæmic murmur over the base of the heart and great vessels. Vision, O. D. 2/60: O. S. 5/24 unimproved. Ophthalmoscopic examination showed, in the right eye, numerous minute glistening white points of retinitis in the macula and surrounding region to the extent of four or five disc-diameters, though not reaching to the disc itself. Farther out toward the temporal periphery these points were accompanied by some pigmentation. In the left eye there were a few similar points about the macula, directly under which was a moderate-sized, crescent-shaped hemorrhage, the upper border of which almost touched the fovea. The general appearance of each fundus and the papillæ was otherwise normal, the slight absence of pigment background being no more marked than was to have been expected in the eyes of a decided blond. Visual fields normal except the scotoma due to the hemorrhage.

Hæmoglobin 42 per cent, red corpuscles, 2,600,000, white 6,000, poikilocytosis fairly marked. Urine negative upon repeated examinations.

The patient was put upon active tonic and alterative treatment, for the most part consisting of protoiodide of mercury one-fourth grain, after meals, or ten grains of potassium iodide before meals, with five to twenty grains of Blaud's mass in conjunction with quinine, arsenic and strychnine, after meals. For three weeks rest in bed was enforced with most careful attention to diet. At the end of this time hæmoglobin had increased to 50 per cent, red cells 2,700,000, white 6,000, with about the same alteration in individual cell appearance as before. A month later hæmoglobin was only 58 per cent, red cells 2,700,000, white 5,000 and poikilocytosis as before. Two months later when last seen hæmoglobin was 60 per cent, red cells 3,000,000, white 9,000. The patient's general appearance was still cachectic, but had improved somewhat, and he had gained about fifteen pounds. Repeated search for plasmodia failed to discover any, and although the constitutional condition had not by any means cleared up, it had been materially benefited, which ought to have been the case with the retinal lesion, at least to a certain extent, if any alteration was to be expected in case of complete restoration to health.

Under this treatment it was impossible to note any improvement in

vision or the appearance of either fundus, except the slight difference due to absorption of the hemorrhage, which was so complete that one looking at this eye for the first time would not have been likely to notice a trace of it.

It was impossible to be sure just when the hemorrhage occurred, as it was not so located as to materially interfere with vision already impaired. But from the statements of the patient, who was more than usually intelligent and observant, it seemed probable that it happened a few days before I first saw him. It was ten days before he was put to bed, and it had already begun to absorb. So it is rather difficult to say what influence can be attributed to treatment, even in relation to the hemorrhage. Certainly none at all, so far as vision was concerned.

Case III.—November 20, 1898, Corporal L. L. E., age 34, was referred by Dr. Kennedy on account of recurrent attacks of inflamed chalazia. No constitutional dyscrasia could be established. The patient had had typhoid fever in Cuba about three months before, since when the trouble with his lids had been present most of the time. Impaired vision was not complained of until questioned, when the patient stated that his vision had formerly been exceptionally acute, but that he had been nearly blind for a short time after his fever, especially in the right eye. The impairment developing, as nearly as he could recall, during the last week of fever, becoming rapidly worse and subsiding gradually, but never reaching its former acuteness. He had had no treatment since convalescence from his fever. At the time of examination vision was 5/5 in each eye, with correction of moderate compound hyperopic astigmatism. Under mydriatic each eye showed an apparently normal disc and macula. But in the macular regions, encroaching closely upon the maculæ were a number of sago-like patches in the deeper portion of the retina, becoming much more numerous toward the temporal periphery where they were grouped in thick clusters, which were elevated, and of a reddish-yellow color not very strongly contrasted with the general color of the fundus; some were scantily pigmented and none showed any appearance of atrophy. The patches composing the clusters were fairly uniform in size —seeming in the direct image to be about 3 mm. in diameter—and were more or less globular in shape, not unlike a thin spread of red blood cells, as seen under a high power.

The field in each eye was normal except where broken by the retinal infiltration.

Blood examination showed only slight simple anæmia, and the urine was negative.

Under the most active alterative treatment, combined with iron and other tonics, no change could be observed in the condition of either fundus. In other words, if the form of retinitis observed at this time was what remained of the lesion which had caused the original impairment of vision, then he had recovered practically normal vision without treatment, whereas no apparent impression could be made by treatment upon what remained of a process that presented none of the usual appearances of retinitis that had run its course.

I have alluded to this case as one of Symmetrical Exudative Retinitis, on account of the symmetrical distribution of the agglomerations of exudation. But I am really at a loss for an exact pathological classification.

Case IV.—November 27, 1898, Private S. J., age 28. Sent by Dr. Kennedy on account of impaired vision first noticed a month before. Had typhoid fever about three months before and made a slow recovery, suffering from dysentery, from which he has not yet wholly recovered: is decidedly anæmic and about 40 pounds under weight.

Vision, O. D., 1/60, O. S. 5/60, only slightly improved by correction of hypermetropic astigmatism.

The ophthalmoscope showed in the right eye marked swelling about the disc, the retinal tissue in places obscuring the outlines of the arteries which are not specially tortuous and the veins which showed well marked engorgement. The macular region was bounded by a sharply-defined ring of distinct hyperæmia, enclosing an area slightly less than one disc diameter, of a comparatively pale, yellowish color, in which the macula could be seen as a small, swollen spot of a brighter red than usual. On the whole, such a picture as one might expect in a partial thrombosis of a central vein, although, of course, it is difficult to feel positive about so comparatively rare an affection without more conclusive evidence.

In the left eye there was a similar but less marked œdema about the disc, with venous engorgement and a few striations of opaque radiating fibers in the macular region.

Hæmoglobin 65 per cent, red cells 3,100,000, white in about normal ratio. No alteration in cell appearance. Urine contained a trace of albumen, but no casts.

The patient was put to bed and given as much iron and arsenic as he could take, and such alterative treatment as he would tolerate. Iodides had to be almost wholly discarded. Corrosive sublimate was fairly well borne. It was three weeks before the dysentery was checked and at the end of this time no material alteration in the patient's vision or retinal condition had taken place. I did not see him again for three months,

during which time he had kept up the use of the iron as formerly prescribed, but practically nothing else.

He had gained about twenty-five pounds in weight, hæmoglobin was 85 per cent, and red cells 4,250,000. Urinalysis negative. Vision O. D. 5/25, O. S. 5/18 with correction, having at first been O. D. 1/60, O. S. 5/60. The œdema had disappeared from each fundus, but there remained in each macular region a few opaque radiating fibers, as seen at first in the left eye. These have persisted to the present time. Treatment has been continued with the addition of alteratives which have recently been better tolerated.

The patient has regained his usual weight, and blood count is now normal.

Case V.—December 1, 1898, Private E. E. S., age 22, came on account of accommodative asthenopia, stating that vision had been considerably impaired shortly after recovery from yellow fever four months before. Convalescence had been slow, and complicated by some irregular febrile disturbance with occasional rigors—presumably malarial, as there was no source of sepsis. With returning health the vision had improved so that now it only causes annoyance when the patient attempts to read. He is now in usual health and shows no appearance of former illness. No history of syphilis. Blood count is normal and urinalysis negative.

Vision under atropine, O. D. $5/15 + .25 + .5$ ax $70^\circ = 5/6$

O. S. $5/12 + .75$ ax $90^\circ = 5/6$

Visual fields apparantly normal.

In the temporal region of each retina are a few proliferative striæ adjacent to small vessels, showing a whitish reflex, and extending into the vitreous from 1 to 6 D. In one place in the right eye the proliferation crosses a small arterial branch and obliterates it beyond this point. In the left eye there are a few wavy opacities in the vitreous. There have obviously been hemorrhages which have cleared up.

Nothing was done in this case except to correct the error of refraction. He was seen three months later, and was entirely comfortable. Vision with correction 5/5 in each eye, and no perceptible alteration in the appearance of either fundus. It had been intended to keep the patient under observation more closely, but being unconscious of any difficulty he failed to report either to me or the post surgeon, and only returned for a copy of his formula for glasses, thus affording an opportunity for the second examination.

Case VI.—February 3, 1899. W. J., age 31, had been a private in the Fourth United States Volunteer Infantry and came to the dispensary

FIG. I.

FIG. I.—CASE 3, RIGHT EYE. Symmetrical Exudative Retinitis, following typhoid fever; the distribution of clusters of almost uniform disc-like exudations containing occasional specks of scanty pigmentation, being practically identical in both eyes. The drawing shows the fundus as first observed, after vision had returned to nearly normal, and as it still appears.

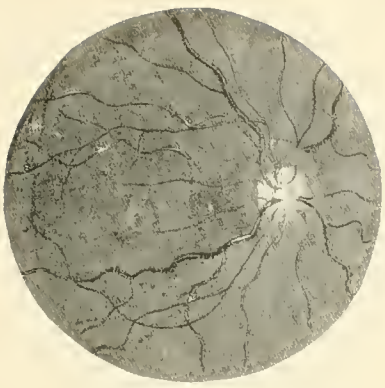

FIG. II.

FIG. II.—CASE 4, RIGHT EYE. Partial Thrombosis of Central Retinal Vein, following typhoid fever and dysentery; tumefaction of entire fundus, especially about the disc and macula, which latter showed as a deep red spot separated by a dull ring from a paler red areola. The veins were engorged, but there were no hemorrhages; the arteries were perhaps slightly attenuated; many vessels partially or wholly submerged. The condition was similar but less marked in the fellow eye. The drawing shows the appearance three months after illness. Two months later nothing remained but a few opaque radiating fibers which had appeared meanwhile.

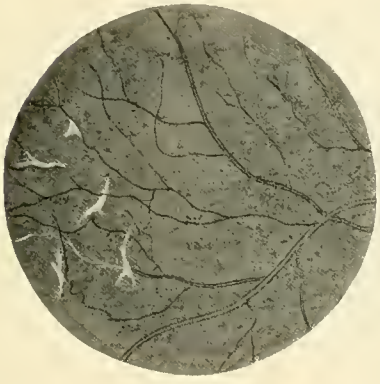

FIG. III.

FIG. III.—CASE 5, RIGHT EYE. Proliferative Retinitis, of hemorrhagic origin, following yellow fever; the proliferations lie along small arterial branches for the most part, and extend from 1, to 6. D, into the vitreous. At one point a proliferation crosses a small branch and obliterates it beyond. The condition of the fellow eye was similar, with a few vitreous opacities. The drawing shows appearance four months after illness.

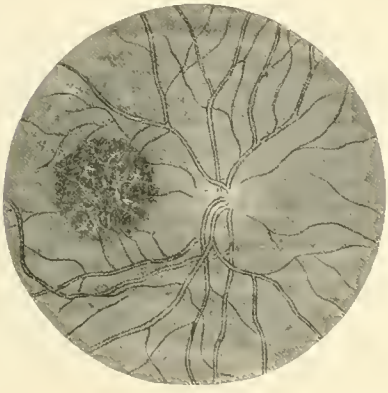

FIG IV*a*.

FIG IV*a*.—CASE 6, RIGHT EYE. Central Retinitis with adjacent exudation. The drawing represents condition as first seen, six months after an attack of intermittent fever. The irregular arrangement of the network of striations in the central area of inflammation suggests that the exudation may have accompanied connective tissue structure in the retina, especially as it persisted, and become even more pronounced as seen in Fig. IV*b* two months later.

The patches of adjacent exudation showed nothing of special interest, and are only vaguely shown.

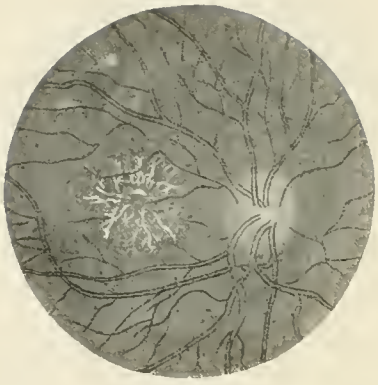

FIG. IV*b*.

[The wavy appearance is due to defective mounting of drawing.]

FIG. IV*b*.—CASE 6. RIGHT EYE. Showing changes in Fig. IV*a* after two months.

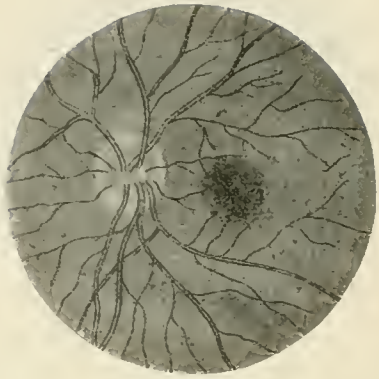

FIG. V*a*.

FIG. V*a*. CASE 6. LEFT EYE. Condition at time of that shown in Fig. IV*a*. The dark granular area occupied the macular region, and is shown somewhat too close to the disc. The illustration is suggestive of hemorrhage, but as seen with the color of the fundus this was not the case.

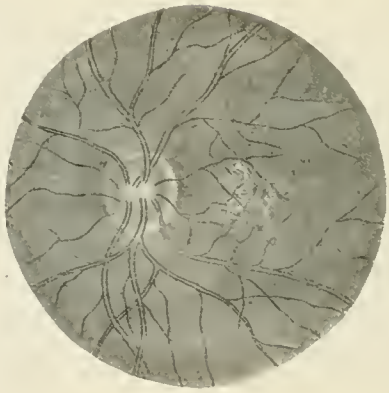

FIG. V*b*.

FIG. V*b*.—CASE 6. LEFT EYE. Same as Fig. V*a*, two months later. The dark granular area has undergone the same changes as in the right eye, and seems to show that the appearance of the net-work of fibrillar exudation was a secondary process, as it had not occurred in this eye at a time when it was quite marked in the other (see Figs. IV and V*a*), which would be a further indication that it was a connective tissue process.

after having been mustered out, on account of impaired vision, and inability to use his eyes without considerable pain. Had had malarial fever in Porto Rico six months before, which was at first distinctly tertian but later became irregular. The patient stated that he had had two hemorrhages from the bowels during his illness, and that upon several occasions the stomach contents, which had been vomited, had contained dark coffee-ground material. Nothing of this kind had occurred during the past four months. No history of syphilis.

The exact time when impairment of vision began could not be determined. It may have been at any time within the past six months, but was noticed decidedly a month ago and does not seem to be materially worse.

At present anæmia is marked and there is slight jaundice. Blood examination shows hæmoglobin 60%, red cells, 2,600,000; white, 12,000; without alteration in appearance except a few microcytes and megalocytes. There is a distinct hæmic murmur over the base of the heart and great vessels.

Vision O. D. 5/40, O. S. 5/15, unimproved. Mydriatic showed a slight compound hypermetropic astigmatism, the correction of which did not improve vision.

The ophthalmoscope showed a dark granular area about two disc-diameters in extent in the right macular region, and another perhaps one third this size in the left, throughout which was a fine net-like, yellowish exudation. In the right eye beyond this, to the temporal side, and somewhat upward, having no special relation to blood vessels, were three moderate-sized patches of exudation, in one of which a little pigment had been deposited. These patches were in the deeper layers of the retina.

No examination of the urine was made, as the patient was referred to the medical department, but failed to comply with instructions. Some doubt as to his ultimate destiny, it seems, had been engendered by the rather complex examination which had overtaken him, when all that he wanted was a pair of spectacles, which appeared to be the only thing he couldn't have. His faith revived somewhat, in the course of the next ten days, and he began to use the protoiodide of mercury, iron, quinine, strychnine and arsenic with which he had been provided—unfortunately by prescription—with such zeal that he returned two months later badly salivated, and wondering what would happen next. The error of his way was pointed out to him, and he submitted to another overhauling from which it developed that his vision was O. D. 5/20, O. S. 5/10.

Hæmoglobin 80 per cent, red cells 4,100,000, white 9,000, microcytes and megalocytes absent, urine normal, and only a trace of the former hæmic murmur. The ophthalmoscope showed no apparent change in either fundus, to account for the slight improvement of vision. On the contrary a few central opaque nerve fibers could be made out which before were not present.

His faith in doctors however seems to have been definitely and permanently shaken by the discovery of the cause of the condition of his mouth, for notwithstanding that he obtained the coveted spectacles, he disappeared with his mouth wash, etc., and has not since been seen.

Case VII.—February 6, 1899. B. F. T., age 27, was a private in the Fourth United States Volunteer Infantry, and came to the dispensary on account of impaired vision in one eye. Had dysentery in Porto Rico six months before, for four weeks, and at the same time some febrile disturbance which had been pronounced malarial. There were no chills however. The patient was ten or fifteen pounds under weight, but not distinctly anæmic. Blood examination showed hæmoglobin 85 per cent, red cells, 4,850,000; white cells in normal ratio, no alteration in appearance. Urine normal. Stated positively that he had never had any trouble with his eyes until the present attack which began about six weeks after his illness, and has been growing steadily worse, and asserted that when his vision was tested at the time he enlisted both eyes were alike. He gave a history of chancre eighteen months before, for which he had received local and constitutional treatment for not longer than a month; there had been no eruption. It is possible that on account of this history this case should be excluded from the present report, especially in view of the result, which is in gratifying contrast to the cases just recorded. But the impairment followed so promptly after his severe illness that while there is little doubt that the retinal lesion was in part specific, it is not certain that the depletion induced by illness had no part in its etiology.

Upon examination of the eyes vision was found to be O. D. 5/5, O. S. 2/100; under mydriatic O. D. 5/6+ .25 sph.=5/5

O. S. 2/100 unimproved.

Ophthalmoscope, O. D. negative. O. S. well marked papillitis, with œdema of surrounding retina extending beyond the macular region, a few deep circular hemorrhages in this neighborhood, and numerous small and moderately large patches of dull whitish exudation, with occasional thick deposits of pigment in their substance and about their edges.

The patient was put on mixed treatment and iodide pushed to six

drachms a day, for a time. Rest in bed could not be secured, but was approximated as nearly as possible.

In ten days the inflammation of the disc could be seen to be subsiding and vision was 5/100. In five weeks œdema had largely disappeared; vision 5/30. In eight weeks there was scarcely any trace of hemorrhages, œdema had disappeared, there was some tortuosity of vessels and retinal exudation seemed little if any changed, except perhaps some increase in pigmentation. Vision 5/12. The case is still under observation and treatment.

Among the foregoing patients there were two cases of yellow fever, two of typhoid fever, four of some form of malarial fever, and two of dysentery. Marked anæmia occurred in three cases — one where malarial fever was followed by dysentery and two where malarial fever was uncomplicated. In one case a syphilitic patient had malarial fever and dysentery, and in one case yellow fever was followed by some form of malarial fever. The term malarial fever is made use of, although its vagueness is offensive, because in all the cases to which it is applied the symptoms and phenomena were not sufficiently typical to admit of a more definite classification except in one instance, and yet there seemed to be no other explanation of the disorders to which it is applied.

The existence of anæmia has been cited as an etiological factor in three cases. But it must be borne in mind that all of these cases came under observation some time after the original illness had occurred, and it is more or less certain that if all were not actually anæmic they were in a condition of materially depleted vitality. But anæmia was the only dyscrasia that could be established, except in the one case of syphilis. In only one case — that of typhoid fever, in which a symmetrical infiltration of the retinal tissues by almost uniform globular masses occurred — did the appearance of the lesion suggest that it might have been in some way directly associated with the disease during which it occurred.

A decided tendency to involvement of the vascular system will be noticed in these cases — five out of the seven showing evidences of this tendency by retinal extravasations, and one of the remaining two having had gastro-intestinal hemorrhages. This, of course, may only be a coincidence, but in the absence of histological evidence it may be fair to consider that probably the structural changes in the retina were in most of them directly due to degenerative vascular conditions, being acute because abruptly precipitated by an acute illness. However this may be the practical result of treatment seems to show that when the lesion dependent upon the diseases mentioned gets beyond the vessels and produces any

definite structural changes in retinal tissues, just to that extent it is beyond the reach of medication, no matter how acute the process may be, and no matter how closely associated with constitutional conditions which may in themselves be remediable.

This, I believe, is somewhat in contrast with processes dependent upon vascular changes due to other conditions. In nephritic retinitis, not only have hemorrhages absorbed, but exudations have cleared. In those changes due to uric acid diathesis, although complete absorption of deposits have not, so far as I know been noted, still, visible alterations have been traceable to treatment. In diabetic retinitis the appearances of the retina may vary with treatment. In syphilitic exudations a very marked effect may be produced by treatment, even to complete absorption, where the process is recent and not extensive. And this may have been the explanation of the improvement occurring in the last case of this series—the only one in which any material improvement could be attributed to treatment beyond the absorption of hemorrhages, and the subsidence of vascular disturbances and conditions directly dependent upon impaired functions of blood vessels.

If this be so, it is the more interesting as the disturbances in the cases here reported were preceded by acute processes, while those alluded to in contrast, are dependent upon chronic conditions.

It is to be assumed, then, that a lesion resulting from an acute cause is, in general terms, less apt to be influenced by treatment, than one resulting from a chronic cause.

These cases are not sufficiently numerous to suggest any satisfactory deductions as to the relative frequency of lesions or secondary conditions to primary diseases. And it is doubtful if even a more extensive list would furnish any adequate basis for conclusions in this respect. There is one feature, however, which all of these cases possessed in common — namely, malnutrition, in greater or less degree, due not only to disease, but also to the unsatisfactory nature of such food as could be supplied to them; and one feature which applied to the changes seen in the eyes of all but two of them — more or less extensive vascular changes.

That anæmia alone played any very important rôle as a cause of vascular changes visible in the fundus of these eyes, may be doubted from the fact that although profound in one case, it did not, in any, compare with the degree of depletion reported, for instance, by Dr. Oliver, in his interesting series of cases of lesions due to chlorosis, etc.

Of course a much larger amount of evidence must be accumulated before it will justify any general conclusions. But from such examination

as could be made, and such facts as could be elicited in these cases it seems not improbable that the defective character of their food is quite as much responsible for the lesions seen in the eyes, as the diseases already referred to.

MALIGNANT NEOPLASMS OF THE EYE.*

BY JOHN O. McREYNOLDS, B.S., M.D.,
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The subject of maligant neoplasms of the eye is too broad and comprehensive for my limited time, and still more limited resources, and I will ask permission simply to present a few cases illustrating some of the most important forms of ocular growths that tend to a fatal issue.

1. *Melano-sarcoma of the Choroid.*—Miss I. W., 18 years old and in good general health, consulted me with reference to a gradual loss of vision in her left eye, the scotoma corresponding to the upper and inner portion of the visual field. There was no pain or discomfort, the tension was normal, the pupil only slightly dilated, and only a moderate degree of congestion of the anterior ciliary veins in the lower and outer segment of the globe. With free mydriasis, we could easily discern both by ophthalmoscopic examination and by oblique illumination a very distinct spherical tumor about the size of a hazel-nut and of a somewhat mottled slate-colored hue, and situated for the most part a little anterior to the equator in the lower and outer region of the fundus. As the patient had already been under the observation of an oculist for several months, I did not feel like resorting to enucleation without a careful investigation of the case. Accordingly, I introduced a hypodermic needle in the subretinal space just posterior to the tumor and drew off a few drops of a translucent fluid which showed on microscopic examination no important solid elements except white blood corpuscles. But the withdrawal of this fluid did not diminish the size of the tumor, which indicated by its resistance to the needle and its general contour that it was solid I then advised and performed an enucleation, made a frozen section of the globe right through the tumor, which you easily see in this macroscopic specimen is distinctly malamotic and surrounded by an area of detached retina. The microscopic examination reveals spindle celled sarcoma of the melanotic variety.

And now, after a lapse of several months, there is no evidence of recur-

*Read before *The State Medical Association* at San Antonio, Texas, April, 1899.

rence *in loco* or of matastasis in remote organs, and if there should be no future development of this growth, we would feel justified in saying that a timely operation had beyond any question rescued a young woman from a most horrible death that would otherwise have been inevitable.

2. *Epithelioma of the Eye.*—Mr. S. C., — years of age, of Texas, consulted me with regard to his eye, concerning which he gave the following history. Several years ago a small area of thickening and subsequent ulceration developed on the outer portion of the lower lid. This was treated at different times with various caustic remedies, but the disease continued to extend until finally a quack cancer doctor resorted to the strange expedient of injecting some very intensely escharotic substance into the cellular tissues between the eyeball and the outer wall of the orbit. This procedure resulted in such a violent inflammation that the eyeball was totally lost and its shrunken remains became firmly adherent to the upper lid and to the periosteum of the external angular process of the frontal bone. When I first saw the patient, the extensive and characteristic involvement of the tissues rendered the diagnosis of epithelioma perfectly positive. And the only question of real difficulty was, would an operation improve his condition? I felt that the question should be answered in the affirmative, for three reasons: first, because the advancing ulceration, and the incarcerated painful blind eye coöperated to render the life of the patient one of continual suffering; second, because the condition of the blind eye was such that there was the established danger of producing sympathetic involvement of the remaining useful eye; third, because there was a prospect of so completely removing the diseased structures as to prolong indefinitely the life of the patient. So prompted by this conviction, the operation was made, removing completely both eyelids, the eyeball, a considerable quantity of the post ocular orbital contents, and a part of the periosteum and bone of the outer wall of the orbit, and the adjacent portion of skin from the temporal region. The edges of the wound were then dissected up and brought together as well as possible and the usual surgical principles applied. The wound has healed well and complete comfort has been secured since the operation, about two months ago, the good eye has been placed in the safest possible condition, but the time elapsed has been too short to speak with certainty concerning the question of recurrence.

3. *Glio-sarcoma of the Retina.*—B. G., 2 years of age, was brought to me by his father from Jacksboro, Texas, and he gave the following history: When only a few months old a light reflex was discovered in the pupil of the left eye and the diagnosis of a cataract was made and delay

was advised. Later on an oculist made a diagnosis of hydrophthalmos and instillations of eserine were prescribed, although the growth at that time had forced its way through the anterior portions of the sclera of the left eye and the neoplasm in the other eye was clearly discernible as a light-colored tumor within the globe. The vision was totally lost in each eye and the pupils were dilated, but the tension was very little affected in the right eye and only slightly elevated in the left eye. The right eye was perfectly quiet and comfortable, but the left eye was somewhat injected and painful. I informed the parent of the serious nature of the malady and expressed the conviction that it was too late to accomplish anything more than temporary relief from the suffering and possible prolongation of life. Accordingly the left eye was enucleated with the result of securing complete comfort for the child for two months, when the right eye became very suddenly inflamed. This was a result of a morbid growth within, producing a very violent glaucoma with such extreme chemosis that the conjunctiva protruded far beyond the palpebral fissure and had to be held aside in order to reveal the cornea. So the right eye also was enucleated with the result of securing perfect rest for the patient for several weeks, when tumors appeared in the orbit of the left eye. These were removed, and no more tumors ever appeared in either orbit. I present to you the macroscopic sections of the enucleated eyes showing the glio-sarcoma within the globe. But after several weeks, a series of tumors began to appear in different parts of the head, but especially along the sutures connecting the frontal and parietal bones. These gradually increased in number and in size, cerebral symptoms developed, the feeble flame of life grew fainter, and the little child passed softly on into that deeper slumber, where all material eyes sleep forever. It may have been that an early recognition of the true nature of his trouble would have rescued the little fellow from his early grave, but such a life in this world would have had few charms to offer, and we hope that he now sees further than we can see into the divine volume of vision, into the strange and varied forms of disease, and the deep and undiscovered mysteries of life.

Eyes of School Children.—Milliken pleads for the utilization of the oral method of teaching to a larger extent than is now practiced, especially in the earlier years of school-life. The greater use of the blackboard with lectures, thus avoiding close eye application, would prevent much mischief in the future life of the pupils who suffer from any degree of ocular defect. He insists on the need of the earliest possible discovery of any existing ocular weakness in school children.—*Toledo Medical and Surgical Reporter.*

REPORT OF A CASE OF TOXIC AMBLYOPIA, ILLUSTRATING THE IMPORTANCE OF DETECTING THIS DISEASE IN ALL CASES WHERE RAILROAD EMPLOYEES ARE AFFECTED.*

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INDIANAPOLIS, IND.

Ophthalmic Surgeon to the Indianapolis City Hospital, and Dispensary; Consulting Oculist and Aurist to The Protestant Deaconess' Hospital; Oculist and Aurist to the Eleanor Hospital for Children; Member Ind. State Med. Soc., Amer. Med. Assoc., Ind. Acad. Sci., Amer. Soc. Micros., etc.

Illustrated.

During the past year the writer has met with numerous cases of this disease; some of them were among railroad employees, who either came to be tested for color blindness, or who thought that their eyes were failing from refractive errors, which needed correction with glasses. Some of these cases were among soldiers, or rather pensioners, who were applicants for increase in rating, basing their claims upon alleged defects of eyesight due to other causes. A few cases appeared among private patients, notably one, a tobacco merchant, who was smoking thirty cigars a day, two of them among traveling men, whose habits of living were irregular, and in whom the sudden unsatisfactory condition of the eyesight caused them to seek advice. Some of these cases presented no visible ophthalmoscopic changes; others gave well pronounced pallor of the nerve head on the side next to the macula lutea, either with or without refractive errors, and some cases were observed where there was present amblyopia exanopsia in one eye, with demonstrable appearances in the nerve head, either with or without squint. A few cases were observed among women, which resembled in many respects this disease, which had to be excluded from the tobacco list, because of the rarity with which this sex in our country becomes addicted to this vice. The writer is well convinced that this disease is far more prevalent than has been heretofore held, and that functional disturbances of vision, in one or both eyes, due to the introduction

*Read before the Mitchell District Medical Society at West Baden, June 22d, 1899.

of drugs and other poisonous agents into the general circulation, occurs frequently, and in both sexes. A large per cent of these cases may be found among railroad employees and traveling men; people who lose much sleep, who live with great irregularity, both as regards sleep and diet, who consequently smoke much, and who though not as a class may be said to be excessive drinkers, still many of them find occasion to imbibe more or less regularly, and especially when hungry before meals, or early in the morning, times when the conditions are such that the spiritous toxicity finds most ready entrance, and makes the most lasting impression upon the central nervous system. Among women the writer has observed that as a rule they were heavy coffee drinkers. It is highly probable that the excessive use of coffee and tea, the habitual taking of drugs of one kind and another by women, e. g. bromides, bromo-caffeine, phenacetine, and other coal tar derivatives, small but more or less regular doses of spirits, taken by those who claim never to touch it (only as medicine, etc.), will in some cases be found responsible for functionally disturbed visual acuity, particularly where the affection is bilateral, and where sometimes the diagnosis has been set down as hysterical amblyopia. Women as a rule take far more medicine than men. They suffer more from constipation; they bathe as a rule less often than men; they have more imperfect kidney elimination, and they are without doubt fully as prone to toxicity as men.

Besides this we have a certain per cent of cases of choked disk, traceable directly or indirectly to menstrual disorders, and the border line between those cases of mere toxicity, resulting in functional, or evanescent disturbances to vision, and those which become distinctly inflammatory in character from meningeal and basilar changes which accompany the total suppression of this function, will probably never be satisfactorily explained. The two great toxic agents — whisky and tobacco — substances which produce at all times more or less disturbance in the general bodily circulation, have been accredited with this eye malady, either alone or combined; but many other agents have been found to produce like conditions, temporarily or even permanently; and our best observers, among whom may be mentioned Casey A. Wood, Sachs, De Schweinitz, Knapp, have met with cases plainly attributable to other drugs, e. g., lead in painters, stramonium, which is found in asthma cigarettes, quinine in excessive doses, opium, etc. It is highly probable that certain elements, existing in the system under certain depraved conditions, where autointoxication may be said to exist, as in diabetes, as well as certain chemical combinations occurring in the stomach under

anomalous conditions, either alone or combined with the elements of wornout tissue waste, have been known to bring about disturbances in the visual fields, together with optic nerve changes, characteristic of this disease, in either the acute or chronic form.

The usual course of this disease is a return to more or less complete recovery; that is, whenever the toxic element, whatever that be, is completely removed from the system; provided, however, that structural changes in the optic nerve itself have not gone too far. Atrophy and sclerosis of the interstitial connective tissue, having once taken place, the improvement will be slight. But those patients who have had good vision before an acute attack will, as a rule, recover.

The following case, taken from the case book of the writer, is interesting, as an illustration more or less typical of this disease:

Mr. B., age 39; passenger engineer of apparently good health; somewhat over weight, but otherwise no complaints, except as to his eyes. He has been in the employ of one of the railroads leading out of Indianapolis, and has been on regular duty for about fourteen years. Up to this time he has never been troubled with his eyes. Some four or five years ago he began the use of spectacles to read with; but his distant vision, and his ability to determine colors have always been superb until lately.

For several months he has noticed unsatisfactory periods of blurring, at which times he has thought that his glasses were not right. Quite lately he has not been able to read the newspapers. He sees better out doors in cloudy weather. The atmosphere has for him an indescribable haziness. His sleep and meals are irregular. He is a very moderate drinker; thinks that he was never drunk. He smokes a pipe almost constantly during his hours of duty, and at other times he smokes cigars. Ten cigars daily is a small average for him, sometimes he smokes fifteen.

His vision is 20/60, and apparently but little helped with Sph.+1.00D. He has presbyopic glasses, Sph.+2.50D. In attempting to read he is observed to hold his eyes askance, first turning one side of his face then the other toward the page, or shift his seat nearer toward the window, but without much improvement in the way of satisfactory illumination. He describes the lines as hazy, and the letters as overlapping each other in such a way as to make the words coalesce, or run together. Additional plus correction avails little if any.

The ophthalmoscope reveals no unusual disturbance in the retinæ, but the optic papillæ are somewhat paler than natural on the side

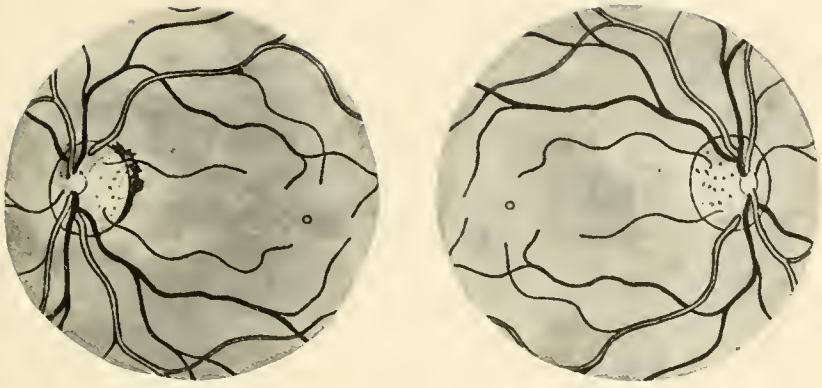

FIG. 1.

Pallor of Optic Nerves in Tobacco Blindness,

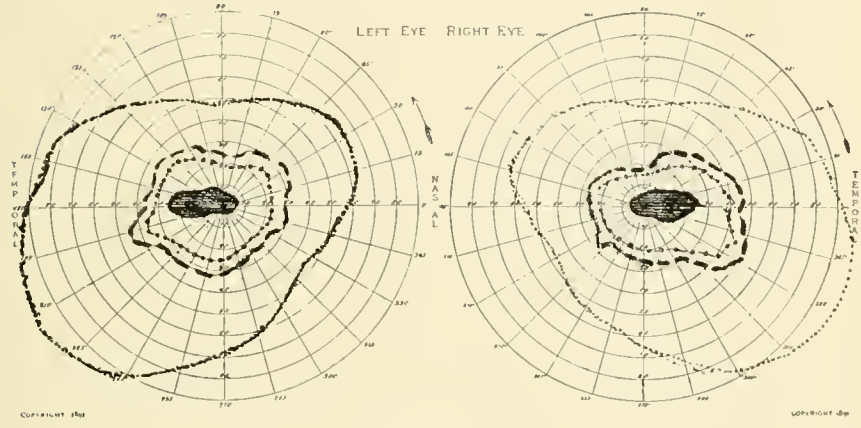

FIG. 2

White . . . . . .
Red . . . . . .
Blue' o-o-o-o-o-o-o-o
Scotoma for colors

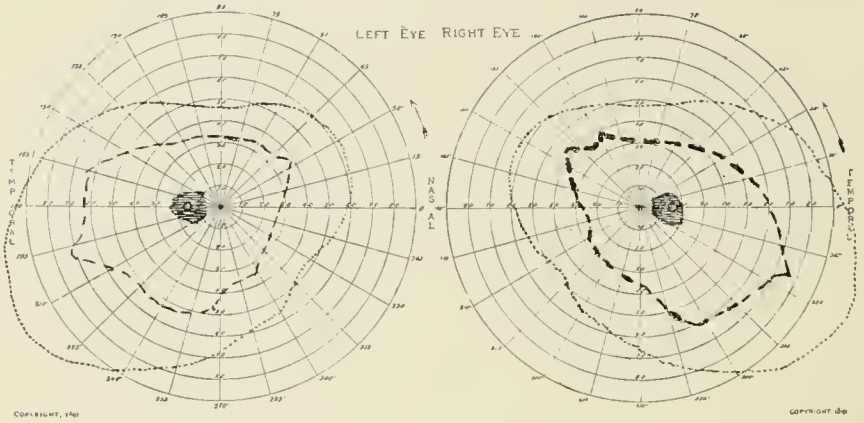

FIG. 3.

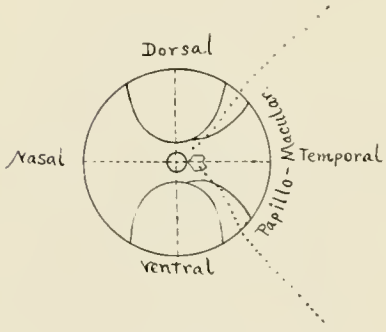

FIG. 4.

Subdivision of Optic Nerve Fibers at its entrance. (*Wilbrand.*)
Norris & Oliver, Vol. II.

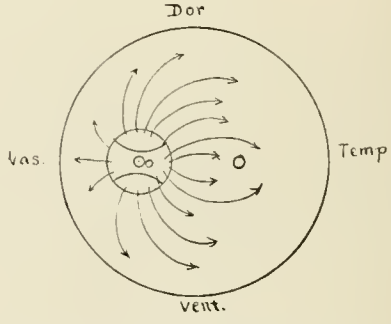

FIG. 5.

Diagramatic representation of Retina, showing distribution of Optic Nerve Fibers after leaving nerve head. (*Wilbrand.*)
Norris & Oliver, Vol. II.

next to the maculæ, and the trabeculæ of the nerve heads show plainer at this point than in the other parts of the disks. Small physiological excavations may be seen around the entrance of the vessels in both disks, and in the right some pigmentation bounds the upper limbus. (See Fig. 1.)

Both fields of vision show the characteristic contraction of the color areas for red and for blue. (See Fig. 2.) Besides this there is a central oval-shaped scotoma, or blind area for all colors, reaching 6 or 8 degrees inwards from the fixation point, and about 20 to 25 degrees outwards, with a vertical area of 8 degrees. The blind spot of Mariotte is included within this scotoma. The fields were tested with small colored squares, 5mm. in diam., the ability to distinguish larger colored objects on the face of the perimeter not being determined. The white field was comparatively in good condition, while the red field was contracted all around from 8 to 15 degrees, and the green and blue even more. Upon allowing the patient to breathe the fumes of amyl nitrite, there was a temporary improvement in the visual acuity, which raised from 20/60 to 20/50 +.

This patient was advised at once to discontinue the use of tobacco, and to take two Turkish baths per week. Hypodermic injections of pilocarpin, and the internal administration of salines, together with temporary use of dark coquilles, to be worn during the day time, constituted the treatment. The case made an uneventful recovery. I append a second reading of his visual fields (See Fig. 3,) showing the increase in area of his color fields, and a corresponding decrease in the size of the central scotomas, which finally were almost limited to the blind spot of Mariotte, while the fixation point became clear.

The importance of detecting ring blindness early, when the person so affected happens to be a railroad employee, can hardly be overestimated; especially may this be said of engineers and firemen. Such a man can be the source of the gravest accidents, which will cost in a moment many lives and much property; for whenever he is on the lookout for a station crossing, or signal known to him, he may be able to recognize the lights as they come into view; also in odd places where he thinks he is likely to meet specials, he may get along without making mistakes; but in some unusual out-of-the-way place, or at some unexpected time, possibly during a fast run, if a test signal be thrown out, he will not see it until within such close range that he may even pass it before he can sound brakes.

This man will be able to pick out the skeins, and match colors in

the examination for color blindness; but if his fields be tested with the perimeter, the examination will reveal (1), a shrinkage of the fields for color, or (2), the presence of a more or less well defined blind spot, or central scotoma, for red and for green, while the field for white may remain normal, or nearly so; consequently the extreme limits of his retinal perception, as well as the exact centers, will be defective, leaving the intermediate portions only available for color vision.

The following points may be considered by way of conclusion, as the summary of our present knowledge on this subject:

1. This disease is more prevalent than it was formerly supposed to be.

2. It is to be found among people holding positions of trust and great responsibility, where human life depends upon accurate and quick eyesight as well as judgment; any tardiness therefore in the visual act, any hesitancy, or lack of decision, may result disastrously both to life and property.

3. This disease is to be considered curable; it differs in this respect from true color blindness or Daltonism; it frequently appears in people whose eyesight has formerly been fairly perfect. It may also appear in people who are color blind.

4. It is more usual among men than women, for obvious reasons; the eyesight of men is more frequently brought into question as a mere matter of responsibility to others.

5. It is due largely to the tobacco habit, to mental and bodily fatigue, which renders the individual more susceptible to the influence of stimulants and narcotics, taken often to counteract the effects of irregular sleep and irregular diet.

6. When neglected it becomes chronic and incurable.

7. While tobacco and whisky probably hold first place as agents in its causation, it may arise from other sources, or be due to complex conditions existing in the system giving rise to auto-intoxication.

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THE REFRACTION OF TRACHOMATOUS EYES.

E. E. HAMILTON, M.D.,

WICHITA, KAN.

In January, 1896,* I reported the result of an examination of the refractive condition of 190 trachomatous eyes. Many defects, both axial and curvature, were found, which might very properly be styled asthenopic errors. Their presence, uncorrected in healthy eyes, would cause some uncomfortable symptoms of strain and prompt their possessor to seek relief.

Since then the pendulum of ocular sentiment has swung still further in the direction of emmetropia until slight defects, particularly curvature, are recognized as fruitful sources of discomfort. The emmetropic eye is considered the ideal eye, the one best meeting the demands of modern civilization with least danger of discomfort or damage. Its refractive condition is seldom changed and its functions seldom perverted if its environments are at all favorable. Unfortunately it is the rare eye, compared with the hypermetropic and astigmatic one.

It is with a view of comparing the diseased trachomatous eye with the eye having no recognizable pathological changes that I have pursued this investigation further. Evidently a healthy eye needing a correction of refractive errors will need it still more in the presence of organic changes, be they intra or extra ocular. Acting under this conviction, it is my practice, as early in the disease as conditions permit, to work out carefully the refractive condition, calling to my aid the ophthalmometer, shadow test, and, when thought necessary, a cyclophlegic.

As will be seen, many errors have been discovered, the correction of which, it has seemed to me, has placed the eyes in a condition best responding to treatment, besides lessening the liability of aggravating and dangerous relapses so common in this disease.

Errors of refraction invite contagious troubles in that they furnish a soil more favorable to germ development. Conjunctival congestion, so frequent an attendant of ocular defects, lessens tissue resistance and predisposes to the disease.

Since January, 1896, I have examined 125 trachoma cases, represent-

*See OPHTHALMIC RECORD.

ing 230 eyes, 20 of the number having for practical purposes one eye only. Eighty-five of these cases have been under treatment for the disease, while 40 were pension applicants who were seen but once.

Of the 230 eyes 200 (or 87%) were hypermetropic in both meridians, or hypermetropic in one meridian and emmetropic in the other (25 cases of simple hypermetropia, 66 cases of simple hypermetropic astigmatism and 109 cases of comp. hypermetropic astigmatism), 4 (or 1 7/10%) had mixed astigmatism, 23 (or 10%) were myopic in both or myopic in one meridian and emmetropic in the other. (11 cases of simp. myopia, 8 of simp. myop. astig. and 4 of comp. myop. astig.)

One hundred and ninety-five (or 84%) were astigmatic. Of these 30 (or 15 4/10) had oblique axes (145° or 35°), 92 (or 47 2/10%) had axes with or approximating the rule, while 73 (or 37 4/10%) were against or approximating against the rule.

Seventy-six cases had binocular astigmatism, 42 having symmetrical and 34 unsymmetrical axes.

Of the 34 having unsymmetrical axes 15 required cylinders vertically placed in one eye and obliquely in the other; 6 had horizontal axes, their fellows being oblique; 4 had oblique and parallel axes; 8 had oblique axes not parallel, while one had a vertical axis, its fellow being horizontal.

Thirteen of my cases required glasses differently ground for each eye as follows:—

Two had simp. hypermetropia in one eye and simple hyper. astig. in the other; one had simp. hyper. in one and comp. hyper. astig. in the other; four had simp. hyper. astig. in one and comp. hyper. astig. in the other; one had simp. myop. in one and simp. hyper. astig. in the other; one had simp. myop. astig. in one and comp. myop. astig. in the other; one had simp. myop. astig. in one and simp. hyper. astig. in the other; while one had mixed astig. in one and comp. hyper. astig. in the other.

The 40 old soldiers had 72 eyes, 8 of the number having only one eye of practical use. Of the 72 eyes 51 were astigmatic, 4 myopic, 14 hypermetropic and 3 emmetropic. Of the astigmatic cases 15 7/10% had oblique (135° or 45°) axes, 41 1/10% were against and 43 2/10% were with the rule. Twenty-two cases had binocular astigmatism, 15 having symmetrical and 7 unsymmetrical axes.

These cases represented the disease in all its stages. In practice a smaller percentage, in the stage of sequelæ, is constantly seen. Patients evidently are becoming educated to the necessity of early treatment. On the contrary, the pension applicants, dating in most cases from army life represented comparatively more of serious organic changes.

Obviously many difficulties were found in examinations and corresponding uncertainties as to exact measurements of errors. Corneal opacities of different location and density were found. Old ulcerations and cicatrices had caused many irregularities of corneal curvature, manifested mainly by distorted mire images. Iritic complications were seen as well as deeper structural changes.

Notwithstanding these many difficulties, I am persuaded fairly accurate results were obtained, existing conditions considered. They speak or themselves and need no comment.

Doubtless some of the curvature defects were acquired, the primary cause, in my opinion, being diminished corneal resistance, influenced secondarily by external and internal pressure.

If disease has weakened the vertical meridian its curvature will be increased and lid pressure will aid in the result. If the horizontal meridian be weakened its curvature will be increased. Possibly here the lateral rectis aid in the result.

The unusual frequency of astigmatism against the rule, seemingly increasing as the disease advances, suggests weakening of the horizontal corneal meridian—enough to more than counteract the opposite effects of increased lid pressure.

If astigmatism against the rule does occur with comparative more frequency in trachomatous than healthy eye, can we account for it clinically? How often is seen at the border of a sharply-defined pannus, stopping at or short of the horizontal meridian, an infiltration. This tends to assume a comparatively linear shape, and disposes itself in a (or approximating) horizontal direction. Sometimes we find extensive destruction of corneal tissue, but oftener an exudate, which may break down forming superficial ulcers, involving perhaps the epithelial layer only. Possibly this disposition to a linear horizontal infiltration may tend to weaken this corneal meridian, causing increased curvature horizontally and diminished curvature vertically.

It would be interesting to know how stable are these acquired curvature effects. Does relieving lid pressure diminish acquired astigmatism with the rule? Does the absorption of exudates, healing of corneal ulcers and subsequent contraction of cicatrices lessen acquired errors, resulting from diminished corneal resistance? I am unable to answer from individual experience. Others having better opportunities for observing these cases answer in the affirmative.

EXCISION OF THE SUPERIOR CERVICAL SYMPATHETIC GANGLION FOR GLAUCOMA, WITH A REPORT OF A CASE.

BY GEO. F. SUKER, M.D.,

TOLEDO, OHIO.

This, if the writer is not seriously mistaken, is one of a very few such operations ever performed in the United States. For this reason alone, if for none other, the case merits a report.

Dr. James M. Ball, of St. Louis, Mo., was the first to perform the operation in America, and a full account of it is to be found in the *New York Medical Journal* of July 1, 1899.

Though the operation has not been done more than fifteen times, the results have been so satisfactory as to place its value beyond question. The majority of these operations of excision have been performed by Thomas Jonnesco, of Bucharest. In these cases a sufficient length of time has elapsed to enable us to decide as to its efficacy. Certainly the excision of the superior sympathetic ganglion will replace the operation of iridectomy or sclerotomy as a cure for glaucoma. Even if it did not accomplish more than the mere relief of pain in these cases, it would be a justifiable procedure. However, it accomplishes more than this in those cases where a certain amount of vision still remains, as it materially improves the visual acuity. This certainly is more than what can be claimed for either iridectomy or sclerotomy. That the excision of the ganglion achieves more than an iridectomy or sclerotomy can be seen from the fact that even in those cases where the latter procedures fail the former still produces good and decided effects.

Heretofore we have lost sight of the influence of the superior cervical ganglion in glaucoma. We are now beginning to realize the fact that the sympathetic nervous system plays a very important part in glaucoma. Though the ganglion is not the seat of the pathological process which gives rise to glaucoma, yet it is the connecting link between the eye and the brain whereby certain effects travel. The relation, however, is not one of cause and effect—this point must not be forgotten.

Thomas Jonnesco was the first who advocated the removal of the

superior cervical sympathetic ganglion for glaucoma. His review of the subject, as well as a report of his eight cases, is to be found in the *Wiener Klin. Wochenschr.*, No. 18, 1899.

The operation, according to Jonnesco, is performed as follows: An incision about four (4) inches in length is made, beginning at the mastoid and extending down along the posterior or anterior border of the sterno-cleido-mastoid-muscle. After this, if possible, proceed with a blunt dissector, separating each muscle until you reach the rectus capitis anticus major. For, directly underneath its sheath is the ganglion. On top of it often lies the internal carotid, internal jugular and the pneumogastric nerve enveloped in their own sheath. Remove as completely as possible the ganglion with its branches. Cut the branches as high up as possible, and at least one inch below the ganglion. One cannot but recognize the ganglion because of its peculiarities in shape, color and definite anatomical relationship to the transverse processes of the 2d, 3d, 4th, or 5th cervical vertebræ, rectus cap. ant. maj. muscle, and the internal carotid artery.

It is not necessary to cut or ligate the external jugular or cut the spinal accessory nerve as Dr. Ball suggests, providing we proceed with the blunt dissector after having made the initial skin incision.

The operation is neither lengthy nor bloody, and the wound heals promptly if one proceeds aseptically.

Our entire knowledge of this operation and its success is obtained from journal literature; for, as yet no text-book has incorporated it. It is for this reason the writer takes the liberty of appending a complete bibliography.

The following is the case operated upon by the writer on August 16, 1899:

Mr. H. L., æt. 70, has glaucoma in both eyes. Vision in right eye, nil; in left eye, 20/200. An iridectomy was made in the left eye May, 1898, with excellent results in so far that it reduced the tension and retained, up to date, the same amount of vision. The patient at no time experienced the characteristic glaucomatous pains. However, in the latter part of July the right eye suddenly became inflamed, exceedingly painful and continued so in spite of every remedial effort.

After having explained to the patient the status quo of this excision of the superior cervical sympathetic ganglion, he consented to have it done.

On the day of the operation, August 16, 1899, the tension of the right eyeball was extreme; it was as hard as stone. Patient was unable o sleep at night on account of the severe pain.

Dr. Leslie chloroformed the patient and I removed the ganglion, as above described, without any difficulty. In this case the right superior cervical ganglion was excised, with its branches fully an inch above and below. The ganglion was located upon the fourth cervical vertebra instead of the usual location—between second and third.

The night following the operation was the first the patient was free from the agonizing pain for a long time.

The immediate effects of the operation were: (1) Cessation of pain and a reduction in the tension. (2) A slight pupillary contraction followed shortly afterward. (3) There was slight dysphagia, but it ceased within thirty-six hours. (4) The respiration and pulse remained unaltered. (5) No drooping of the upper lid, such as has occurred in some cases. (6) There was excessive lachrymation for several days.

On the fifth day after the operation, the tension was reduced to +2. On this day the stitches were removed and patient allowed to return home.

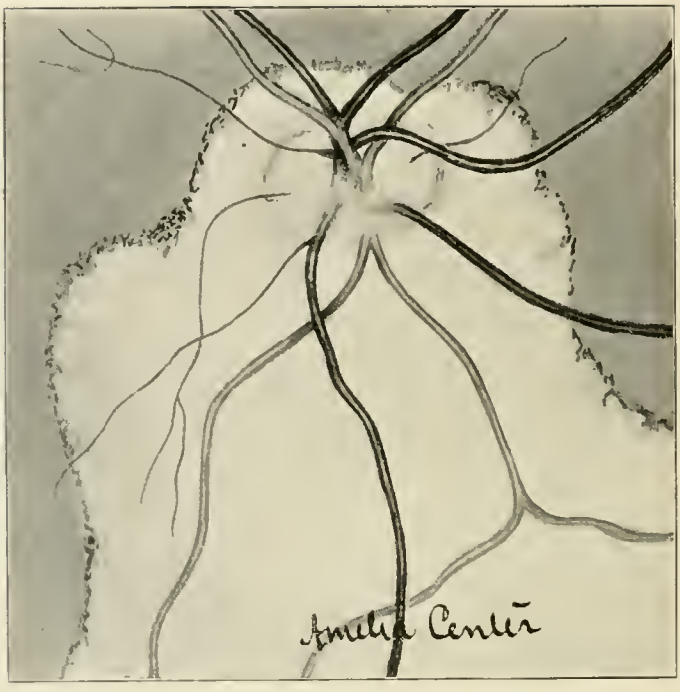
Since the operation the patient has had no sleepless nights and no pain whatever. The good effects kept on developing for nearly two weeks after the operation. At this time the tension was between +1 and +2, and remained so since.

Up to the time of the present writing the operation has had no beneficial influence upon the vision of the left eye. It is very doubtful whether it will, although it is suggested by Jonnesco and Ball that excision of one ganglion may influence both eyes, the one on the opposite side, however, only slightly.

Considering the above case and after a careful study of all reported cases, the writer firmly believes in the unquestioned efficacy of the removal of this ganglion for glaucoma.

If one operates simply for the relief of pain, the ganglion on the same side as the painful eye should be excised. If one eye is painful and vision nil, while the other eye is not painful and there is some vision, remove both superior cervical sympathetic ganglia. In any case of glaucoma, excepting the hemorrhagic variety, remove one or both ganglia, as the case may indicate, whether for the relief of pain or for the purpose of improving vision.

That a resection of this ganglion is a logical procedure can be seen from the following facts: (a) The sympathetic nerve fibers of the eye, descending from either the brain or spinal cord, must pass through the superior sympathetic ganglion. (b) These sympathetic fibers supply the iris, choroid, retina and sclera. (c) They supply the ocular blood vessels. (d) They are found in the unstriated muscle portion of Tenon's capsule.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Any constant or periodic stimulation or irritation of these sympathetic nerve fibers causes: (a) a constriction of the intra-ocular blood-vessels; (b) a contraction of the circumbulbar muscles, and (c) an increased action of those elements constituting the aqueous humor, hence an interference of intraocular fluid exchange, with a consequent increase of tension if it effects a dilatation of the pupil.

This in brief gives us the main factors which constitute glaucoma. An excision of this superior sympathetic cervical ganlion will produce diametrically the opposite train of results, and in this way acts so satisfactorily in glaucoma.

In conclusion, the writer wishes to express his thanks to Drs. S. Thorne, J. W. Wright, L. Brewer, and L. W. Heydrich, for their timely suggestions during the operation.

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A CASE OF MICROPHTHALMIC EYE, WITH LARGE COLOBOMA OF CHOROID.

BY FRANK ALLPORT, M.D.,

CHICAGO, ILL.

Illustrated.

Miss H. T., age 21, consulted me at Chicago Policlinic, April, 1899. Extreme convergent strabismus of right eye. The eye appeared about two-thirds as large as a normal eye. Palpebral fissure six lines shorter than left eye measured on a straight line from canthus to canthus. Cornea and iris much smaller than left eye. Fundus is reproduced by a drawing by Amelia Center. Vision reduced to very indefinite perception of a part of the hand in the extreme horizontal and lateral portions of the visual field. External rectus muscle much impaired in function. Tenotomy of internal rectus, and advancement of external rectus performed, with perfect cosmetic result, as far as bulbar position is concerned.

92 State Street.

CILIATED TUMOR OF THE CONJUNCTIVA.

BY FRANK ALLPORT, M.D.,

CHICAGO, ILL.

Illustrated.

R. K., male, age 13, came to my clinic at the Woman's Medical College, April 3, 1899. He simply complained of an irritability of the left eye, which occasionally became congested. The mother said she had noticed a queer lump in his eye ever since birth. Vision $\frac{20}{20}$—intra-ocular condition normal. No other congenital defect. Parents not related. Examination disclosed good sized tumor of bulbar conjunctiva, covered with long dark hairs, looking exactly like eye-lashes. Tumor removed. Recovery perfect. Miscroscopical examination by Columbus Medical Laboratory as follows :

The specimen is covered on one side by an imperfect layer of epithethial cells. These cells partake of no fixed type. The basement layer of these cells is columnar in shape. The epithelium is set on a basement membrane. There are no papillæ. Immediately under the basement membrane there is a zone of embryonal cells and embryonal blood vessels. Deeper the connective tissue fibers are coarse and there are very few muscles of any sort. There is no uniformity in the arrangement of these fibers. In the midst of these fibers are some blood vessels and around these are aggregations of cells. In this zone also, are a moderate number of hair bulbs, typical in structure. In one place there are several sections of structures that greatly resemble sweat glands; around these there is an abundance of young connective tissue cells. Deeper than this connective tissue is a layer of adipose tissue. In this size are several cystic glands. The epithelial cells are small, rounded and in two or three layers. Continuing toward the under surface, we come back to fibrous tissue and this is the bottom layer, except at one point near the smaller end. Here a layer of embryonal tissue covered by epithelium is imposed. The appearance is as though the same layers had been broken from other portions of the under part.

The picture by Amelia Center faithfully reproduces the appearance of the eye.

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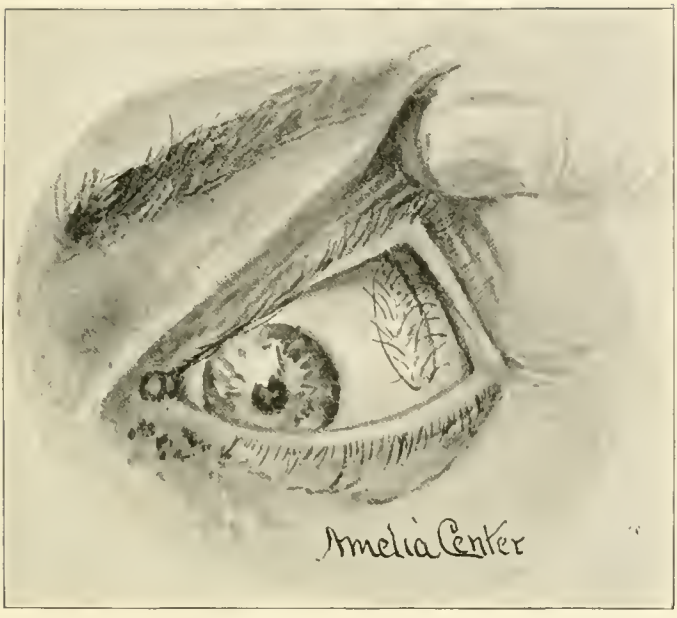
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AN UNUSUAL CASE.

E. W. REAGAN, M.D.,
CANTON, ILL.

On May 30, 1898, John Finley, aged 31 years, of Smithfield, Ill., came to me for treatment of his right eye, giving the following history: Ten years ago he was struck in left eye with a nail. The eye inflamed, and when it recovered the vision was practically useless, as he expressed it, "My left eye is no good." One week ago he noticed the right eye was sore and vision growing dim. He positively states that the right eye has never been injured. Vision at this time was O. D. 6/30 O. S., counting fingers at one meter. Externally the right eye presents a pericorneal zone around upper half. A small scar as though made by a needle was seen in cornea 3 mm from sclerocorneal juncture above, immediately in front of a posterior synechia. On ophthalmoscopic examination the lens at this point presented a dark cloud, which seemed veiled by a greenish film, while the upper one-half of lens was clouded. The left eye was myopic, with a broad crescent out. Refraction —10.00 D. After prescribing a solution of atropia for the right eye and —8.00 D. lens for left eye, I informed him that he would go blind in the right eye and that an operation would restore the sight. He reported from time to time, and on October 9, 1898, the lens having become completely cataractous, I did the combined operation, grasping the iris at the point where it was adherent to the lens and making a broad coloboma. The lens was soft, but I succeeded in getting most of it out of the eye; that which remained settled to the bottom and was ultimately absorbed. I could not, however, find the foreign body. The eye healed kindly, and on November 10, 1898, I furnished him with a +10.00D. lens for right eye, which gave him 6/15 vision, and for the left —10.D., which gave 6/21 vision. With these he worked all winter. February 15, 1899, the correction of O.D. was +10.00S. = +1.00 cyl. ax. 120 = V. 6/6M., O.S.—10.00V. = 6/21. This correction he is wearing with comfort. It seems strange to me that such a combination could be tolerated; also strange that the patient was not aware of the injury to the right eye at the time it occurred.

THE

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EDITORIALS.

THE OCULIST AND THE OPTICIAN.

The controversy between the oculists and opticians still continues. The resolution passed by the American Medical Association at its last meeting in Columbus, in which it expressed itself as of the opinion that treating errors of refraction requires a knowledge of pathology and therapeutics; and that such treatment, consisting of the proper adjustment of lenses, constitutes a portion of medical practice, and shall be undertaken by those qualified to practice medicine and surgery only, seems to have had some such effect upon the opticians who favor the *Keystone* with their communications, as the casual waving of a red flannel shirt is supposed to produce upon the emotional feelings of a mad bull. The language of the resolution is couched in such simple and unequivocal language as to be quite readily interpreted by those even less inclined to criticise the oculist and his chosen field of labor, than our friends the "Ophthalmic Opticians," as some of the more advanced disciples in the profession choose to designate themselves. The "Refracting Opticians" (which we judge is another of several dozen high-sounding titles coined to graphically and complacently picture the labor and position of the up-to-date optician), seems to be greatly disturbed lest the various projected laws in the different States shall place him in a condition, where, like Othello, his occupation will suddenly be ruthlessly torn from him by the members of the medical profession, who venture to practice ophthalmology, and who dare to include in their list of accomplishments the correction of errors of refraction. Some of the optical authors, on this interesting but complicated question, make such advanced pretensions, that when they

boldly hold that educated opticians only, and not physicians, nor even the average ophthalmologist, is capable of properly adjusting lenses, we are led to roll our eyes heavenward, and inquire, in the words of the inspired author, "O, Lord, how long?" at the same time making a practical investigation as to the character of nerve tonic consumed by those indulging in such eccentric optical dreams.

The feeling of the average ophthalmologist, toward the vaulting and ambitious optician, who desires to push the former off from the face of Mother Earth, may perhaps be illustrated by the old Quaker, who confidentially said to his wife, "All the world is queer but thee and me, and thee is a little." It certainly does seem queer to us, that the optician cannot entertain the same views upon this subject as we do, and be willing to occupy what we consider to be his legitimate position, and then "stay put," and allow the world ever afterward to pleasantly and regularly proceed on its revolving tour around the various heavenly orbs, where we earnestly hope this controversy has not yet established itself. But our friends and co-workers do not by any means seem inclined to amicably participate in such an Arcadian existence; but, on the contrary, continue to indulge in a dried apple and water diet, or at least in some kind of nourishment that is followed by inflated or swollen-up conditions, until we fear the day is not far distant when we shall be compelled to cringingly beg the permission of the optician to remove a cataract or an eyeball, and then take in washing, or run errands for optical establishments, at odd times to furnish means of subsistence for ourselves and families.

Why cannot the optician be made to understand the dignity and limitations of his own legitimate calling, and be satisfied to properly work at his chosen avocation? We are happy to know that such men as Meyrowitz, Fox, Coe, and others who represent the best elements in optical circles, are satisfied to be and to remain dispensing opticians, and have no ambition to become optometricists, ophthalmic opticians, or even refractionists. Why cannot the optician be made to see that the eye is not a mere mechanical or optical machine like an opera-glass, that can be repaired "while you wait;" but is a living organism, of such a delicate and sensitive nature, that it may be easily and permanently damaged by even improperly adjusted glasses? Why cannot he understand that the best men in the world unanimously agree that good refraction work cannot be done without a mydriatic (which an optician may not legally use); but that the use of a mydriatic must be governed by the pathological conditions of the interior of the eyeball,

of which an optician, not being a medically educated man, is incapable of forming an opinion? Why cannot he appreciate that an eye with improper refraction is a pathological eye, with pathological results and sequelæ, and that pathological conditions should be treated only by graduated physicians? Believing the average optician to be possessed of average intelligence, we cannot understand how he can entertain honest views, at variance with these, on the subject, and yet believing him also possessed of average honesty, we must believe in his integrity in the present instance. We wonder where the responsibility lies. Can it be possible that the wholesale optician, desiring to sell test-lenses, glasses, frames, etc., in large quantities, furnishes the means and inspiration to start and maintain some of the optical journals, colleges, etc., for the purpose of producing sentiment, refractionists, "Professors," etc., which will supply a demand for their manufactured articles? Of course this query is wholly incorrect, and entirely inconsistent with the general character and reputation of the trade, and we are confident that at least no wholesale optician in our list of acquaintances would encourage the improper and injurious adjustment of glasses. Still, we cannot refrain from wondering, especially as an editorial, in a recent edition of an optical journal, urges a combined and hand-to-hand contest with school-book publishers and school authorities, intending to force them to abolish text-books on Hygiene, where the advice is given to consult ophthalmologists and not opticians in all cases of defective vision. The publishers of a particular text-book on this subject were addressed by a State association of opticians, through its secretary, who evidently must have thrown out some particularly potent arguments against missionary literature of this character, for the publishers cringingly and apologetically wrote in reply, that they would instantly look the matter up, at the same time assuring the secretary that their *business* interests would not permit them to publish anything which would do an injustice to anybody. It would be interesting to see a copy of the secretary's letter (which, strange to say, is not published), and ascertain just what cogent arguments he brought to bear upon the publishers to reduce them to such a state of abject humility; but perhaps this may be surmised by even those unpossessed of much imagination. The writer of the editorial sums up the matter by advising that the expression of opinion, to such objectionable publishers, be so representative and *forceful* that no publisher can *afford* to ignore it. Shade of Eugene Debs! are such *arguments* to be used in considering the health of our school children?

Is the boycott to become the argument of the "Refracting Professor?"

Two sides can usually be discovered to all questions, and the one under consideration is no exception to the rule. No doubt exists in the minds of anybody that all physicians are not capable of doing refraction work. The general practitioner usually has no time nor inclination to indulge in this sphere of activity, and to his credit be it said, he does not attempt it. He possesses some intelligible idea of his own mental limitations, and acts accordingly. It would be gratifying to note that most non-professional gentlemen attempting refraction work were imbued with the same acuity of mental introspection, but alas, while it may be undoubtedly true that the "truth should not be spoken at all times," this appears to be one of the times when veracity seems permissible, and we are forced to surmise that either these gentlemen have for some time omitted the recitation of their personal catechism, or a clouded intellect appears to be somewhat contagious among the ranks of the "Refracting Professors." Or can it be possible that the cupidity of which oculists are accused by the opticians, through their endeavors to place a few obstacles in the way of the opticians to the full enjoyment of refraction work, is one of the conspicuous attributes in the *ensemble* of the average refractionist? We repeat that general practitioners, and those engaged in other special lines of medical practice, are certainly not qualified to do refraction work, until and unless they have specially fitted themselves for such practice by proper post-graduate work. But the same argument is equally forceful in other lines of special work, such as neurology, gynæcology, laryngology, etc., and yet no one can question their distinct *right* to enter into any of these various avenues of labor, as long as they are legally qualified to practice medicine in any of its branches. Fortunately, however, these arguments fall tolerably flat upon the minds of unprejudiced people, because in these days of high requirements, and post-graduate work, scarcely anybody attempts the practice of any specialty without proper special instruction and experience. This is true of ophthalmology, including refraction work, and the writer is confident that while black sheep may be found in any flock, most physicians engaged in this line of work are reasonably competent to perform it properly. Certainly, admitting that the eye is a part of the human body, and intimately connected with its possible pathology, no one should be permitted to treat it (and under this heading must come refraction work), unless he at least is a doctor of medicine. This is the first requirement, and is the only sure foundation upon which to stand. All other steps

must proceed from here. Our esteemed friends and aspiring co-workers, the refracting professors, may, through cupidity, selfishness, stubbornness or deficient appreciation, choose to argue to the contrary, and doubtless their literary organs will fairly scintillate with protracted eructations of eloquence on the subject until the rafters, figuratively speaking, ring again. But no amount of argument will make wrong right, and the time will surely come, when, through a process of general public education, proper restrictions will be placed around this field of labor, just as legislatures have defined the practice of medicine and who shall practice it.

We regret to witness daily the failure on the part of general practitioners to grasp the true significance of refraction work, for, to their shame be it said, many of them send their patients to opticians instead of to ophthalmologists. Such practices are not confined to the less intelligent members of the profession, but pervade its highest ranks. The writer would suggest that our missionary work commence here, and that both in our personal relations and public writings for general societies and medical journals, we endeavor to point out to the general practitioner the error of his way, and the illogical and untenable position he so frequently occupies. F. A.

INVESTIGATORS IN OPHTHALMOLOGY AND THEIR CRITICS.

The *personnel* of our too numerous army of medical men is made up of a curious variety of individuals, presenting interesting differences, but none more so than as regards their attitude toward new discoveries and methods. These differences are even of more practical than speculative interest.

In appraising the value and importance of original contributions to medical knowledge, it is always useful to consider the contributor when we are really acquainted with his personality and the attributes of character. While his work often bears the impress of his individuality and internal evidences of its truth, excellency or worthlessness, sometimes we can hardly judge of it without considering the temperament and character of its author. But how many who assume in their own estimation a correctly critical attitude, consider the influence their own character and peculiarities exerts upon their valuation of another's work?

So many and various are the contributions to the ophthalmology of to-day which are blindly accepted on the one hand and keenly scrutinized

and criticised on the other, that some friction has resulted, amusing to some and depressing to others.

It must be admitted that some of the laborers upon our really beautiful wing of the great edifice of Scientific Medicine have endeavored to adorn it with questionable taste, and that their grotesque efforts violate all the harmonies of the general architectural plan. Such a one is unfortunately too often ignorant of the foundations — the ground principles of the superstructure. Dazzled by vanity, ever seeking something new, he would construct an annex, and calls persistently to his fellow workmen to assist him in removing the walls built by some one dead and gone that he may substitute for them his worthless and flimsy fabric. Another who ponders long and labors late solves some problem of the Great Design, but his fellows cease their daily routine not to listen but to deride.

To drop metaphor: If ophthalmological critics were more tolerant and more familiar with human nature they would not be so often misled by the paradox presented by those who, patient in digging out clinical facts, yet through the false perspective of a distorted and too sanguine enthusiasm, grossly exaggerate their value and make themselves ridiculous in attempting to apply them.

It is neither common sense nor common justice to throw away the facts or to refuse to test their possible correctness, instead of making a proper use of them. The absurdity of the investigator is quite equaled by the intolerant bigotry and captiousness of the critic, and perhaps after all scientific progress is more retarded by the latter than the former. It is well to remember that it is far easier to destroy than to create, and that eccentricity has often proved a misnomer for originality.

We have all heard the oculist in full routine practice thank God that he is not bitten with the *mania scribendi*. His large practical experience enables him to complacently state off-hand that certain newly-published views are "all bosh." Perhaps he is right; but unfortunately the literary reticence (often really laziness and literary incapacity) of which he is so proud, deprives us of the means of judging the truth or falsity of his assumptions. Editors stand ready to publish the treasures of his experience, but rarely do we hear from him who is (though he may not know it) in the words of Verulam, "A debtor to his profession."

F. B. E.

CORRESPONDENCE.

AN ARTIFICIAL EYE FILLED IN WITH WAX.

Salt Lake City, Utah, August 26, 1899.

Editors Ophthalmic Record:

In 1894, Mrs. M. C., aged 62, came to have a glass eye inserted. Her eye had been lost years ago, and was taken out somewhere in England.

The stump was small and irregular; the orbital space was deep, owing to the way the eye had been removed. I fitted her with a large shell, and she was pleased with its appearance.

A few days after she was so unfortunate as to break it, and not being able to procure another, she thought she would mend it, so getting some dentist's wax, she filled up the space under the shell and put it in its place.

After a time she became alarmed, and called to see if there was any danger in wearing the mended eye. The wax held the segments in place, and in looking at the eye I could not tell that it had been broken. She spoke of the improved cosmetic effect, and also stated that there was no secretion found under and about the eye as formerly.

I told her to continue the use of the eye, and report if any bad effects occurred. She continued the use of it up to her death, which occurred some six months later. Ira A. E. Lyons.

[The above case is of interest in connection with Snellen's suggestion, translated by Dr. Black, in the Ophthalmic Record for July, and Dr. Black's favorable experienc with such filled in artificial eyes, reported at the recent meeting of the Rocky Mountain Inter-state Medical Association.—Ed.]

REVIEWS.

Etiology and Therapy of Purulent Dacryocistitis.—(*Beitrage Zur Augenheilkunde.*)—Dr. N. Cahn.—From the Hagensberg Private Clinic in Riga.—Diseases of the tear passages are seldom observed in comparison with disease of other parts of the eye. Thus, for example, Hasner[1] gives the following statistics:

Disease of the conjunctiva	24%
" " cornea	20%
" " lens	17%
" " uvea	13%
" " lids	11%
Subjective ocular disturbance	5 1/2%
Disease of the whole eye	2 1/2%
" " tear passages	2 1/2%

Nevertheless, upon entering the reception room of any moderately busy oculist, one or more sufferers from purulent dacryocistitis are to be seen. This phenomenon depends upon the fact that diseases of the tear passages ostensibly withstand all kinds of treatment, and that relapses occur only too frequently. These facts have impelled me to more closely investigate the subject.

As in medical sciences generally, so also here especially, a certain disposition forms an important etiological factor.

Some under the leadership of Prof. Hasner, who is noted for his fundamental work on the tear conducting apparatus, assume a local disposition, which is supposed to depend upon an asymmetrical formation of the facial skeleton; others, with Prof. Arlt at their head, incline to the belief in a general disposition of the organism; almost all others mention the fact that the female sex suffers more frequently from tear duct affections than the male, according to Hasner[2] three times as often (2.93:1.) Further, we frequently read that the left tear duct

[1] Hasner, *Beitr. Z. Physiol. u. Pathol. d. Thran enab leitz ung sapparate.*
[2] Hasner, l. c.

becomes diseased more often than the right, and the explanation given is that the lachrymal duct is narrower on the left side than on the right. Hasner, however, has demonstrated that this is not correct; but that an asymmetric arrangement of both lachrymal ducts plays a much more important rôle, as appears in the following table:

	Length of the Nasal Lachrymal Canal		Distance of the posterior edge of the upper opening of the osseous nasal canal from the floor of the nasal cavity		Distance of the posterior edge of the upper opening of the osseous nasal canal from the apex of the nasal bones		Distance of the posterior[1] edge of the upper opening of the osseous nasal canal from the junction of both nasal bones with the frontal bone	
	RIGHT.	LEFT.	RIGHT.	LEFT.	RIGHT.	LEFT.	RIGHT.	LEFT.
1	4.2	4.6	14	14	14	14	17	17
2	5.5	5.2	12	15	15	15	13	14
3	2.	2.5	11	12	13	14	13	14
4	2.	2.	7	9	11	10	14	14
5	6.	6.5	14	15	13	14	14	14
6	6.	6.5	13	14	15	13	17	15
7	4.5	5.	11	12	16	14	15	14
8	3.5	3.	11	11	14	14	16	16
9	4.5	3.5	14	14	.....	.....	15	15

Therefore, the author thinks considerable deviation, with respect to the length and direction of both lachrymal ducts, exists even in the normal condition in one and the same individual. Furthermore, it must be added that the entire osseous skeleton of the nasal cavities, indeed all the bones of the face are asymmetrically developed in each person. We find even by superficial observation, continues Hasner, that one facial half is more strongly developed, and this asymmetry often develops into a deforming and noticeable obliquity of the head, especially of the face, so that one is inclined to call this condition a true skoliosis of the cephalic vertebræ. The nasal bones and the nasal septum never stand in the median line, but are displaced toward that side in which the bones and cavities have a lesser development. According to Hasner's opinion this asymmetry is produced by the function of chewing; since man for the greater part chews with one and the same half of the mouth, conditions leading to the greater development of the muscles and bones of this side are produced. Therefore, not only the structure

[1] Hasner. l. c.

of the nasal ducts, but also of the nasal muscles, nasal bones, and nasal cavities in general, is of influence in the development of the lachrymal sac. In every text-book of ophthalmology, the statement may be found that flat noses dispose to disease of the lachrymal passages, since in these the so-called Hasner's valves suffer an alteration of position; while the normal angle between the osseous nasal canal and the horizontal is 60° to 70°, in a flat nose it attains only 45°. Consequently, in expiration, mucus may easily get into the nasal duct, for it happens even in normal position of the valve that a foreign body, *e. g.* (snuff), penetrates into the naso-lachrymal duct in powerful expiration, and there produces an inflammation.[1] In opposition to all this, Arlt[2] maintains the following: If any one believes that diseases of the lachrymal ducts are caused by diseases of the nose, it is a very erroneous conception of the mutual inter-dependence of the diseases. In general, we must assume, that both affections exist independently and simultaneously beside each other, being produced and maintained by one and the same cause. The reason why our therapy in disease of the mucous membrane of the naso-pharynx, and its accessory cavities is without effect, depends, says Arlt, upon the fact that these affections are almost, without exception, connected with a general disturbance of health, and unhygienic methods of living, and therefore demand also a general pharmaceutical and diatetic treatment. They develop more frequently in the poor, in people who inhabit moist, freshly whitened quarters. The immediate cause of the blenorrhœa of the lachrymal sac, regardless of what disposition may preëxist, is in a majority of cases an obstruction to the conduction of tears. Assumed that this is produced by swelling of the mucous membrane of the lachrymal duct, then the tears can no longer completely drain off into the nose, but stagnate in the tear sac, where they rapidly decompose, since a great number of microbes are carried along with them from the conjunctival sac, and find in the standing fluids,[3] warmed to the body's temperature, the most favorable conditions for their development. Soon a purulent fluid is secreted; in short, there is developed the full picture of a purulent dacryocystitis. It is true, that the swelling of the mucous membrane of the nose, or of the lachrymal duct, can never reach so high a degree as to be able to produce an absolute impassability of the tears. Although the great venous network, immediately beneath

[1] Stellwag von Carion, *Lehrb. d. Prakt. Augenhlkde.*
[2] Arlt, *Die Krankheiten des Auges.*
[3] Knies, *Grundriefs d. Augenhlkde.*

the mucous membrane, may by itself occasion a considerable stenosis.[1] If, however, without the existence of special swelling of the mucous membrane, or cicatricial strictures, purulent dacryocystitis is frequently observed, it is partly to be ascribed to the fact that a morbid process has extended, by continuity from the nose to the nasal duct, and further upward to the tear sac, and partly to the restricted or completely interrupted nasal respiration, which last fact has generally received little attention, and to which we will soon return.

The orbicularis muscle is to be regarded as a regulator[2] of lachrymal conduction. Various opinions as to the process of this physiological action have ruled since ancient times, each of which has its justification. Since several factors work together in this, the question will be most readily solved by dividing the process into four factors. The tears assemble in the conjunctival sac and are driven down in the act of winking by the pressure of the orbicularis muscle, into the lachrymal canal (first factor;) the entrance of the tears into the lachrymal duct is favored (second factor) by passive dilatation[3] (Henke) of the latter during closure of the lids, for the fibers of the palpebral portion arise in part from the ligamentum canthi internum (M. Horneri) and during contraction of the same to close the lids the internal palpebral ligament is drawn away from the lachrymal bone, consequently the anterior wall of the tear sac which is intimately united to it. In this way the lachrymal sac is dilated and the contents of the lachrymal canal aspirated.

The accession of the new volumes of tears, together with their weight, and especially the elasticity of the tear ducts (third factor), aid the transportation of the lachrymal fluid out of the sac into the lachrymal duct. Therefore we observe also in atony of the tear sac in which the elasticity has disappeared a retardation or total interruption of the tear conduction although the lachrymal duct is completely permeable. Finally (fourth factor) nasal respiration has its effect, to the importance of which for the downflow of the tears Hasner[4] was the first to call attention; with each inspiration there is a diminution of air tension in the nasal duct, and the tears are aspirated from the nasal duct into the nose. Fuchs[5] disputes this so-called aspiration theory of Hasner and Weber in the following words: "The penetration of the tears into the tear duct continues even

[1] Fuchs, *Lehrb. d. Augenhlkde.*

[2] Arlt. *Die Krankheiten des Auges.*

[3] W. Henke, Die Offnung und Schliefsung der Augenlider und des Thranensackes. *Arch. f. Ophthalm.* 1858.

[4] Hasler, i. c.

[5] Fuchs, *Lehrb. d. Augenhlkde.*

when the road into the nose is destroyed by obliteration of the nasal duct." As above mentioned the entrance of the tears into the nasal sac is accomplished by passive dilatation of the tear sac. (Second factor.) On the other hand the permeability of the lachrymal duct is an absolutely necessary condition for the occurrence of the fourth factor, in which by means of rarefaction of the air in the nose during each inspiration the tears are aspirated out of the lower portion of the nasal duct in the nose. Now it is intelligible that an interruption or an interference of nasal respiration may easily lead to collection of tears above the mouth of the lachrymal duct, especially in rhinitis, with swelling of the nasal mucous-membrane.

Therefore, we have in the first place among the etiological factors mechanical interference with tear conduction as is occasioned by swelling of the mucous-membrane, foreign bodies in the inferior meatus (p.; Arlt.); furthermore, neoplasms in the middle meatus of the nose or in the antrum of Highmore, accumulation of mucous in the antrum, bony outgrowths, fracture of the bone with infraction, abnormal position of the inferior turbinated body or the septum, rhinoliths, cicatricial strictures after eczema and ulcers (scrofulous, syphilitic, lupus), furthermore, caries of the nasal bones or other bones in the neighborhood of the lachrymal sac especially of a scrofulous or syphilitic nature. Finally not infrequently a direct continuation of the diseased process from the neighborhood is observed, especially from the nose, but also from the conjunctiva. Purulent dacryocystitis and rhinitis must be considered as very frequent complications of trachoma, according to Galezowski in 90 per cent of the cases, according to Kuhnt[1] in 32 per cent, and according to Gerber in 65.5 per cent. Kuhnt considers a direct transference from the lachrymal sac to be improbable since diphtheria and blenorrhea of the conjunctiva are very seldom followed by affectations of the lachrymal sac.

As for the treatment of purulent dacryocystitis I shall not mention all the methods which have been employed, and are still employed, but shall restrict myself simply to describing the methods that I have been employing during the last three years. I seldom employ systematic probing, only in such cases certainly in which strictures are demonstrable. My principal object is to allay the secretion or cause it to stop; to which Puech[2] has called special attention. By regularly washing out the lachrymal canal with disinfectants and astringents we may accomplish consid erable improvement in the most obstinate cases in the course of time.

[1] *Kuhnt, Behandlung der Conjunctivitis granulosa.*
[2] *Puech, Recuil d'Ophtalmologie*, November, 1896.

For irrigation I use a Wecker's catheter, which is not provided, as customary, with a rubber bulb, but with a piston syringe (as Anel's), so as to be able to force the fluid through under pressure, by which means the folds of the mucous-membrane are smoothed out so that the medicament comes in contact with all portions of it. Koenigstein,[1] of Vienna, recommends, instead of Wecker's catheter, similar fenestrated ones with blunt conical ends, similar to urethral catheters; these are very practical, since they do not so easily wound the mucous membrane. The catheter is introduced approximately to the middle of the lachrymal sac and the fluid forced through under moderate pressure while the catheter is gradually withdrawn. If it is desired to use several syringefuls, then the catheter must probably be reintroduced several times if really all parts of the mucous membrane are to be touched, which in chronic processes is always necessary.

Before probing or catheterizing, I always employ slitting of the lachrymal caniliculus above as well as below, and am not deterred from a repetition of the slitting if a reunion has occurred, as often happens with the upper caniliculus.

Special attention must be given to the fundus of the lachrymal sac, because by ordinary manipulation it is not touched by the irrigating fluid. With the aid of Anel's syringe with curved point, it is possible to give the fluid such a direction that it enters directly into the fundus. After I have washed out the tear canal several times with a lukewarm disinfectant, I press several times with the finger in the neighborhood of the tear sac, and thereupon wash out the tear sac with an astringent. Of the disinfectants, I use those which stimulate slightly, but certainly kill all bacteria —e. g., oxycyanate of mercury, 1 to 5000 to 1 to 10000; permanganate of pot., 1 to 10000, or sublimate, 1 to 10000 to 20000; the latter is to be avoided if it is desired to use immediately afterward silver nitrate, which is easily weakened in its action by the formation of silver chloride. Silver nitrate is one of the favorite, and in reality most effectual, astringents in ophthalmology. Of the numerous silver salts most recently discovered and warmly recommended, not a single one has succeeded in driving silver nitrate from the field; nevertheless, I desire to especially recommend one, argonin. After I became acquainted with the remarkable success of the treatment of gonorrhea with argonin, in literature, I began to employ the same in eye practice, and with it have obtained, I might almost say, wonderful results in purulent dacryocystitis. Another advantage is that this remedy does not stimulate at all, for in irrigation of the tear duct it

[1] *Therapeut. Lexicon*, Dakryocystoblennorrhoe.

is impossible to avoid touching the conjunctiva, and I have never observed the slightest indication of any irritation. Ordinarily I employ a 4 to 6 per cent argonin sol. in distilled water and glycerin, equal parts; as soon as the secretion loses its purulent character, I pass to a 2 per cent or even weaker solution; finally I use only a disinfectant; in scrofulous children, I conclude the treatment by washing out the tear duct with a ¼ to ½ per cent iodo-glycerine sol. three to four weeks.

The proper attention must naturally always be given to the general condition (scrofulosis, lues).

In very obstinate cases of purulent dacryocystitis, especially with fistula, I have obtained brilliant results with the pressure bandage, after precedent and with coincident medical treatment. Since, however, the eye will not long endure the pressure bandage, I had K. Marggraf in Riga prepare a compressor similar to that of Sharp. This consists of a head-band, from the middle of which a thick curved wire passes to the neighborhood of the tear duct; there an oval button is fastened to it, which, by means of a screw, may be brought more or less near the tear sac, so that, according to the indications, a stronger or weaker pressure may be brought to bear in this region. The button is covered with soft leather, and a small piece of gauze or cotton is laid in the region of the tear duct. If compression does not avail, and there is suspicion of granulation formation in the tear duct or of caries of the lachrymal bone, it is advisable to widen the fistulous opening above and below with the scissors, and carefully curette with a sharp spoon after the bone has been completely exposed. Extirpation of the tear sac remains the last resort, and it seems to me that this recourse may be avoided by continuous and energetic treatment, all the more so since the results of extirpation are not at all attractive.

In speaking of etiology I referred to the great importance of the orbicularis muscle in tear conduction. This frequently loses its contractility, as also the anterior wall of the tear sac may lose its elasticity, thus producing an atony of the lachrymal sac. In such cases, faradization of the neighborhood of the lachrymal sac recommended by Puech[1] is of some use.

In conclusion, I would permit myself to draw the attention of colleagues to the following: In the Jaesche-Arlt operation for trichiasis and in some of its modifications most authors recommend emphatically that so far as possible the fibers of Horner's muscle be cut out in order to in this way avoid recurrence. I am of the opinion we should consider the

[1] *Recuil d'Ophtalmologie*, Nov., 1896.

preservation of this muscle, because it favors but very slightly the occurrence of trichiasis, and on the other hand is necessary for the production of an unrestrained tear conduction; much more so, since after the operation on account of the shortening of the skin and the separation of the lids from the eyeball the lachrymal puncta are further removed from the conjunctival sac than in the dormal condition. By this means tear drainage is rendered considerably more difficult, a circumstance which of itself is sufficient to produce disease of the lachrymal duct.

MELVILLE BLACK.

Dr. S. D. Risley said in a brief paper before the Section on Neurology, *American Medical Association* on the "*Ocular Phases of Headache*," that the subject chosen for the symposium was one of great interest to the ophthalmologist, since in the last one thousand private eye patients applying for treatment for all causes fifty per cent of them complained of this symptom, and a large percentage of these came by the advice of their family physician, or through the persuasion of a friend, complaining of headache alone, and were unconscious of any ocular trouble.

While it had come to be generally recognized that eye strain was frequently the sole and sufficient cause for headache, the fact that the eyes might be the unsuspected cause, needed wider recognition. There was, however, no necessary relation in many patients between existing errors of refraction and pain in the head. Glasses were often prescribed greatly to the comfort of the patient in relieving eye symptoms, but pain in the head persisted. Then, too, it was quite common to find two patients with similar ocular defects, one of whom suffered only from eye symptoms, while the other was constantly in the slough of semi-invalidism through pain in the head and other reflex phenomena, both of whom found complete relief from glasses so nearly the same that they might be used interchangeably. Such experiences suggested individual peculiarities, e. g. of environment, the neurotic temperament, or possibly the existence of some constitutional diathesis, as rheumatism and gout.

It was stated as an interesting fact that those patients who suffered most from local manifestations of eye strain, e. g. impaired vision from high defects of refraction, inflamed eyelids, recurring styes, conjunctivitis, etc., although they frequently complained also of headache, did not, as a rule, belong to the headache group.

The location of the pain when due to eye strain was suggestive. Vertex pain was comparatively rarely due to the eyes, but when located in the

brow or periorbital region, or in the occiput and nape of the neck, ocular participation should always be suspected.

There was great variety in the manifestation of pain. Many persons suffered more or less constantly with a dull pain in one or more of the regions named, without violent exacerbations, while others, although suffering more or less constantly, were subject to a progressive aggravation of the symptoms until the crisis came in a violent onset of sick or nervous headache, which drove them to bed in a darkened room, from which they emerged after twelve to twenty-four hours, with tender and weak eyes, only to pass once more through the inevitable cycle of suffering. The attacks were frequently regarded as due to digestive disturbance, fatigue, or to heredity, the eyes not being suspected as the cause. In cases of recurring sick headache due to eye strain heredity especially was very often considered as the important disposing cause. Dr. Risley urged that while the neurotic temperament might be a family trait thereby affording a predisposition to pain, it was far more probable that the ocular defect causing the eye strain was hereditary, since the regularity with which certain defects, e. g. hypermetropic astigmatism, are handed down from parent to child is one of the most striking facts in ophthalmology. He pointed out the relation between abnormalities in the shape of the eyeball upon which errors of refraction ordinarily depend, and the faulty form of the bony orbit associated with certain distortions of the skull, and called attention to this fact as one of the instances in which disease and impairment of function depended upon a congenital anatomical deformity.

The sudden onset of headache during or after middle life, or following recovery from acute disease it was urged did not exclude the eyes as an etiological factor. The main points of the paper were enforced by brief histories of illustrated cases representing different groups of patients. The paper was then summarized in the following conclusions as established by clinical experience:

(1). That abnormalities of the ocular apparatus are in a large group of patients the sole and sufficient cause of headache.

(2). That these abnormalities of vision may be the unsuspected cause, and therefore, that the absence of symptoms obviously referable to the eyes does not exclude them as an etiological factor in headache, insomnia, vertigo, petit chorea in children, and certain stomach derangements.

(3). That the recent or sudden development of symptoms, e. g. after attacks of severe illness, as typhoid fever, the exanthemata, etc., or in association with more or less acute exacerbations of some general

dyscrasia, is not sufficient evidence against ocular participation in causing the symptoms.

(4). That the participation of the eyes as an etiological factor in headache can be positively excluded only in the absence of ocular disease or after the most painstaking correction of any existing error of refraction or abnormality of binocular balance.

(5). That for the relief of reflex symptoms accurate corrections are essential, and these may be secured only by the more or less prolonged use of a strong cycloplegic.

(6). That immediate relief by these corrections in a large group of patients is not to be expected since the pain is frequently due to associated pathologic, conditions of the fundus oculi, and these require time to cure.

Rare Case of Absolute Color-Blindness.—(Fulkala, Vincenz, *Klin. Monatslbl. f. Aguenhkde.* May, 1898.)

Reports the case of a man who had myopia 3.5 D in both eyes. Vision, R.—0.1, which in weaker light rose to 0.2; read Jaeger No. 3 readily. Vision, L.—0. 0.05; read Jaeger No. 6 in dim light; he was a little light-shy, and carried his head upward and pinched the lids together; he was otherwise sound, strong and well developed. He said that shortly after birth he had brain trouble, and did not see at all well until the tenth or eleventh year, when the vision greatly improved; his family had good eyes; there was no astigmatism ; the fundus was the same in both eyes; the color and contour of the papilla and the eye ground were normal; the blood vessels were somewhat narrow and relatively few, which would account for the lowered vision. He said that since childhood he had never been able to distinguish any colors. Examination with colored paper showed that all colors seemed to be dark gray, white and black ; pure black was darker to him than red or violet. There seemed to be no difference in color, to him, between a highly colored picture, a copper or steel-plate or photograph.

NEWS ITEMS.

Personals and items of interest should be sent to Dr. Frank Allport, 92 State St., Chicago.

Dr. Allen T. Haight, of Chicago, has returned from his European trip.

Dr. C. H. Beard, of Chicago, has returned from his vacation in Kentucky.

Dr. D. B. St. John Roosa, of New York City, has been spending the summer abroad.

Dr. W. H. Wilder, of Chicago, has been spending his vacation in the western mountains.

In Jena a new University Eye-Clinic has just been completed. Professor Kuhnt is the director.

Dr. Casey A. Wood has been spending the summer at his delightful summer home in Kenilworth, Ill.

Dr. George M. Gould, Philadelphia, was elected President of the Association of Medical Libraries, which was organized in 1898.

A competent ophthalmic assistant is needed in one of the Chicago dispensaries. Address the News Editor of the Record, Dr. Frank Allport, 92 State St., Chicago.

A new Eye-Clinic has been opened in the University of Breslau. It is due to Professor Foerster's effort that it was built. His successor, Professor Uhthoff, is the director. It has forty-eight beds.

Dr. S. Lewis Ziegler, of Philadelphia, who has been abroad for the past three months, has returned home. While in Holland he attended the Ophthalmological Congress, which recently met at Utrecht.

Lime in the Eyes.—Washing out the eye immediately with a solution of sugar water is said to stop the pain at once, and lessen the danger of permanent injury. The sugar enters into a chemical combination with the lime, which loses its caustic properties.

We are delighted to witness the continued good health of our venerable friend, Dr. E. L. Holmes, of Chicago. He looks much better than he did a year ago, and a short time ago attended a meeting of the Physicians' Club of Chicago, and made a speech on "Medical Ethics."

Dr. Noyes, of New York, who has been spending the summer abroad, has returned, and has commenced his usually interesting work at the New York Eye and Ear Infirmary. It was noticed at a recent visit to the Eye and Ear Infirmary, that a narrow Graefe's cataract knife is usually used for the destruction of capsular cataracts. They claim that by carefully using the back of the knife as a fulcrum that the cornea is not unduly incised.

Dr. Hermann Knapp, who has been spending the summer abroad, has returned to New York. Dr. Arnold Knapp, his agreeable and talented son, who has been working at the New York Ophthalmic and Aural Institute for several years and during his father's absence, is rapidly following in the footsteps of his father. He is a sincere and earnest worker, and all who visit the institution may feel sure of a kindly and hearty welcome.

The new Massachusetts Eye and Ear Infirmary is a thing of beauty and a joy forever. It is located at 233 Charles Street, corner of Fruit Street, Boston, only a few blocks from the old institution. It is a handsome brick structure, with all of the very best and latest improvements. It must be a pleasure to work in such a well-ordered building. The plant cost $280,000, and is all paid for. The operating room is the most beautiful room of its kind in this country. One side of the room is almost entirely glass, and the light is simply superb, as the building overlooks the Back Bay, and there is, and never will be, any possible obstruction to the ingress of light. Cataract operations and iridectomies are all made on the patient's bed; each bed is a narrow iron structure, with large easy-running wheels on each leg, so that the patient is easily rolled from one part of the building to the other. The heads of the beds are so constructed that they do not in any way interfere with free action on the part of the operator. Dark rooms for ophthalmoscopic examinations can be found in almost any part

of the hospital. One of the features of the hospital is what they call their isolated wards. This is a part of the building absolutely cut off from all other parts of the building, and contains twenty beds. In this part of the hospital they place all of their contageous cases. The rooms, halls, furniture, etc., are so made that they can all be thoroughly washed down with a hose and scrubbed with soap and water. This part of the hospital is really a hospital in itself. It is supplied with its own nurses, medicines, bedding, towels, appliances, etc., and large sterilizers are always at work cleaning and purifying the various articles which have been used. This institution is truly a model, and any one contemplating the building of an eye and ear infirmary would do well to make Boston a visit.

Dr. William R. Murray, who has been associated with Dr. H. V. Würdemann in Milwaukee for the past two years, will practice ophthalmology and otology in Minneapolis, Minn., after October 15, 1899.

Dr. Nelson M. Black, who has been with the Eighth Army Corps as Captain and Assistant Surgeon in the Philippines, returned with his regiment, First North Dakota Volunteers, August 1. He participated in over twenty battles and skirmishes, beginning with the fighting around Manila and the battle of Caloocan. Before entering into active service in the field he did much of the ophthalmic and aural practice of the American army, being delegated for this work. After October 1 he will again be associated with Dr. H. V. Würdemann in Milwaukee, with whom he practiced before entering the army.

At the meeting of the Mississippi Valley Medical Association, in Chicago, the following ophthalmological papers were read:

The Therapeutics of Infectious Conjunctivitis, by Dudley S. Reynolds.

Supra-Renal Gland as a Therapeutic Agent in Ophthalmology, Otology, and Rhinology, Flavel B. Tiffany, Kansas City, Mo.

Introversion of the Iris, L. W. Beardsley, St. Louis, Mo.

Treatment of Certain Ocular Diseases by Excision of the Cervical Sympathetic Ganglia, James Moores Ball, St. Louis, Mo.

Beta-Eucain as an Anesthetic in Eye Surgery, W. H. Poole, Detroit, Mich.

Removal of Cervical Sympathetic for Epilepsy, Exophthalmic Goitre and Glaucoma, Emory Lanphear, St. Louis, Mo.

Among the clinics was one by W. H. Wilder, at the Eye and Ear

Infirmary, on Tuesday, September 26; one by H. M. Starkey, at Mercy Hospital, September 27; another by W. H. Wilder, at the Eye and Ear Infirmary, September 28; another by F. C. Hotz, at Rush Medical College, September 29; another by W. L. Noble at the Clinical School, October 2; another by H. M. Starkey, at Mercy Hospital, October 9; another by C. A. Wood, at the Post-Graduate Hospital, October 10; another by W. H. Wilder, at the Eye and Ear Infirmary, October 10; another by W. H. Wilder, at the Eye and Ear Infirmary, October 12; another by C. A. Wood, at the Post-Graduate Hospital, October 13, and another by F. C. Hotz, at the Rush Medical College, October 13.

Benefit of Rest After Operations on the Eye. — E. Clarke recently exhibited a set of rabbits' eyes on which operations had been performed, showing that when the animals were kept under the influence of an anesthetic for ten minutes to half an hour afterward, the wound closed, and the anterior chamber re-formed very rapidly, until it was scarcely possible to distinguish the operated from the sound eye. Animals allowed to recover from the anesthetic, and not killed for half to two and three-quarters hours afterward, showed evidences of irritation in the eye, turbid aqueous, etc. His experiments confirm the extreme rapidity with which the aqueous is resected under favorable conditions, and the value of rigid rest. —*Clinical Journal, August 30. Abstracted from the Journ. Am. Med. Asso.*

Albuminuric Retinitis.— Samuel West.—*Medical Press and Circular* (London), September 6. West brings this communication to a conclusion by summing up the facts which he thinks justify the drawing of a sharp distinction between the two forms of albuminuric retinitis, the degenerative and the exudative. He says they stand in strong contrast with each other in the following respects: 1. Of the forms of disease with which they are usually associated—the degenerative, with granular kidney—the exudative especially, with parenchymatous nephritis. 2. Of their nature and cause; the exudative being inflammatory, and probably toxic in origin; the degenerative, consequent on vascular changes, and more or less mechanical in origin. 3. Of sight; for the exudative, even in extreme forms, may recover, with little or no defect of sight; but with the degenerative, if there is any impairment of sight, it is usually progressive. 4. Of diagnostic value; the exudative being an interesting by-phenomenon of chronic parenchymatous nephritis, an affection, the existence of which is obvious enough, while in granular kidney the degenerative

often makes the diagnosis certain in cases which have been hitherto obscure. 5. Of risk of life; for while in both cases it indicates a grave form of renal disease, which may of itself prove fatal, in granular kidney it indicates, in addition, all those dangers to which arterial disease exposes the patient. He thinks, therefore, that the distinction is not only justified by the facts, but explains many of the apparent contradictions which are made by different authors. — *Abstracted from the Journal of the A. M. A.*

Partial Substitution of the Cornea.—(Kuhnt.)—An experience with nearly a thousand patients in the last fifteen years, with ulcerative processes, perforations after ulcerations, or after removal of fresh or old prolapse of the iris, fistulæ, karatoceles, incipient partial staphylomata, injuries with or without an opening into the inner eye, or after various operations, all treated by applying a flap of the bulbar conjunctiva with or without a stem, as the substituting plastic material, enables Kuhnt to affirm the extreme benefits derived from this simple process. The shape of the eye is retained, and sometimes part of the vision, even after severe injuries or lesions. The flap is sometimes left attached at both ends, sometimes reënforced with a second flap, freshening the edges of the wound before covering it. In case of an ulceration, after evacuation and cleansing, the flap is applied, and the success is surprising. Pain disappears, and healing is complete in five or seven days, after which the flap gradually vanishes, finally leaving nothing but a kind of pannis tenuis.— *Abstracted from the Journ. Am. Med. Asso.*

Parenchymatous Keratitis in Acquired Syphilis. — (E. Roubiceck.)— *Weiner Klinische Rundschau*, September 2.—While specific treatment is unmistakably effective in this affection with acquired syphilis, mercurial inunctions have no effect on congenital cases, and hence inunctions are not applied to children in Deyl's clinic. Roubiceck reports several observations which differ in several points from the schema established by Valude: he claims that in case of acquired syphilis the keratitis is unilateral, disproved by two of the observations; also that the pain is less than in congenital cases, with no lachrymation or shrinking from light, which was the reverse of what was observed in another case. But the observations confirmed his other points: the lesser vascularization with acquired syphilis, and the fact that the cloudiness of the cornea commences at the edge, with distinct, cloudy patches, which slowly merge together. With congenital syphilis, the tongue-shaped patches of cloudiness soon

spread over the entire area of the cornea. Many cases of the affection, with acquired syphilis, have probably been included with the congenital, especially in children, as we are apt to forget that children can acquire syphilis. Roubiceck considers it almost impossible to distinguish between interstitial keratitis, from acquired or congenital syphilis, as experience has shown that Hutchinson's stigmata can occur with acquired syphilis. Fournier advises the following questions: Syphilis in the family; do the parents acknowledge it? syphilitic stigmata on them; occurrence of abortion, premature births, eclampsia and convulsions, bearing in mind the possibility of lead and tobacco intoxication, as women in tobacco factories abort regularly. — *Abstracted from the Journ. Am. Med. Asso.*

Carl Waldhauer was born December 20, 1820, at Sallenen, in Kurland, and died April 30, 1899, at Mitau, in Kurland.

Again one of the oldest pupils of Von Graefe has departed. In 1858 Waldhauer located at Riga as oculist, and from 1863 to 1879 was director of the Widow Reimers' Eye Hospital. His work here was blessed with great success. He also educated a number of young oculists. Later on he moved to Mitau, but was forced to give up his practice on account of a serious disease of the eyes.

His publications all dealt with practical ophthalmology, especially with the operation for trichiasis, which is so frequent in Kurland, where trachoma is extremely prevalent, with interesting cases and injuries. He was in looks and manners a true German, and will live in the memory of all who were fortunate enough to know him.

The following are the most important of his publications: Cataract Punctata (Arch. f. Ophth., XXXI, I); Tumors of the Eye and Orbit, Petersburg Med. Woch, 1877); Operation of the Ptosis (Ibid., 1886); Diabetic Cataract (Ibid., 1884); l'Operation du Trichiasis (Arch d'Opht., 1882); An Iris Anomaly (Klin., Mon. Bl., 1866); Sympathetic Ophthalmia (Ibid., 1883); Operation for Trichiasis (Ibid., 1897); An Injury to the Eye (Centbl. f. Augen., 1889); Foreign Bodies in the Orbit (D. Z. f. Chir., XXIX).—Cent. f. p. Augenhlk.—*America Journal of Ophthalmology.*

There is an unfortunate confusion in the minds of the people, *i. e.* the heterogeneous mass of humanity commonly designated "the public," as to the meaning of the words "oculist" and "optician." He will be a public benefactor who succeeds in making every one understand that the oculist is a surgeon, a qualified practitioner of medicine and sur-

gery, who has, or should have spent years in acquiring a special knowledge of his work after having obtained his medical degree; that he is neither a shop-keeper nor a mechanic; but that, on the other hand, an optician is a mechanic neither more nor less, who may have some knowledge of the anatomy and physiology of watches and clocks, but knows nothing of the anatomy and physiology of the human frame, or of the optical problems he undertakes to solve when he proceeds to examine eyes and prescribe glasses. The oculist occupies the same position in relation to the optician as he does toward the druggist, and has a right to exact the same care in filling his prescriptions from the one as he does from the other. Moreover, he is likely to object to the prescribing optician just as much as he or any other physician does to the prescribing druggist.

There is no reason why the public should not confide the care of their health or their eyesight to unqualified practitioners, druggists or opticians, instead of first seeking medical advice, if they choose to take their chances in this way. The evil in either case tends to correct itself, more often perhaps in the case of the prescribing optician than in that of the druggist; for, as a matter of fact, a very large proportion of persons requiring the use of glasses on account of errors of refraction cannot by any possibility obtain relief except at the hands of an oculist—of one who has the advantage of a thorough medical training and the right to use drugs the action of which is absolutely essential to a complete investigation of the case and of the many complications so often associated with the errors of refraction. Moreover, the optician has no knowledge of the morbid conditions which are often the real cause for seeking relief by the use of glasses. Sooner or later the failure of the glasses to afford relief compels the sufferer to look for other advice, and herein lies the chief danger, as it sometimes happens that the delay is disastrous. Such a case is reported in the Philadelphia *Medical Journal* for March 18, 1899, and many similar ones are to be found in every ophthalmic surgeon's records.

The itinerant optician, however, is the most reprehensible creature of all his tribe. For pure effrontery, impudence and downright knavery he has no parallel. As witness the poor farmers and farmers' wives throughout the length and breadth of the land who have paid their five and ten dollars for gold-mounted pebbles of woundrous virtue, and found themselves in possession of brass fittings to a bad piece of window glass. The number of these dupes is legion. The traveling spectacle vendor commonly assumes some high-sounding title, or, worse than this, pretends to be the agent of some oculist of repute whenever he reaches a locality

where that oculist happens to be well known, and the ignorant never fail to swallow the bait. It seems impossible to invoke the aid of the law against these specious swindlers, but if every medical practitioner throughout the country would inform his clients that no reputable oculist ever did or ever will employ an agent to examine eyes and sell glasses, something would be accomplished in the way of preventing this disgraceful method of swindling the ignorant and unwary.

It is a sad fact that physicians themselves—sometimes through carelessness or ignorance—promote the evil by recommending their patients to any one and every one who sells glasses or calls himself an optician.

The intelligent portion of the public are always willing to be guided by the advice of their family physician, but if he be negligent, his influence is more than likely to prove positively harmful. No physician in his right mind would make a practice of sending his patients to a prescribing druggist for advice and treatment. With equal reason he should abstain from sending them to the "Examination Free" optician.

That which is offered to the public free, as a rule, is worth nothing.—*Montreal Medical Journal.*

The Danger to the Eye from Ligature of the Common or Internal Carotid.—(Siegrist, *Heidelberg Congress of Ophthal.*, August, 1898.)

S. gives two cases: 1. Ligature of the common and internal carotid for hemorrhage following operation for carcinoma of tongue. Sudden blindness on the side of the ligature presented the feature of embolism of the central artery of the retina, section six days later; ascending thrombosis from the site of the ligature, and extending 6 mm. into the ophthalmic artery. Central artery blocked near its origin by an embolus, the latter being overlaid with a thrombotic mass. The retinal changes concern the inner layers. Infiltration advancing from periphery to center of cornea, with small central ulcer, and peculiar changes in the epithelium.

2. Pulsating traumatic exophthalmos ligature blindness on the same side, embolic in character; five months later atrophy of the papilla: choroidal vessels all visible, partly normal, partly sclerosed; fine pigmentation of the retina. After a year and a half the macular region showed no sclerosis, but still fine flecks of pigment; in the upper part of the fundus the choroidal vessels were completely sclerosed, and the retinal pigment was heaped up in mass around this area.

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Dr. Josef Imre, of Budapest, has used Argentamine extensively in conjunctivitis, catarrhal and gonorrheal ophthalmia, purulent keratitis, trachoma, etc., and recommends it strongly to ophthalmologists.

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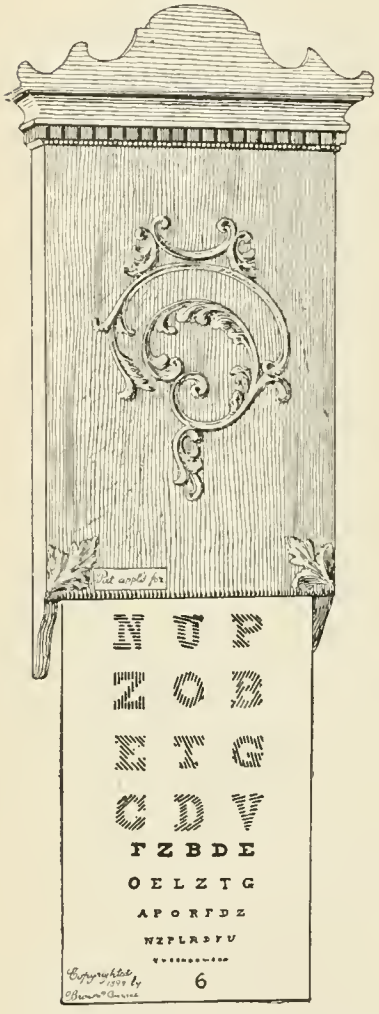

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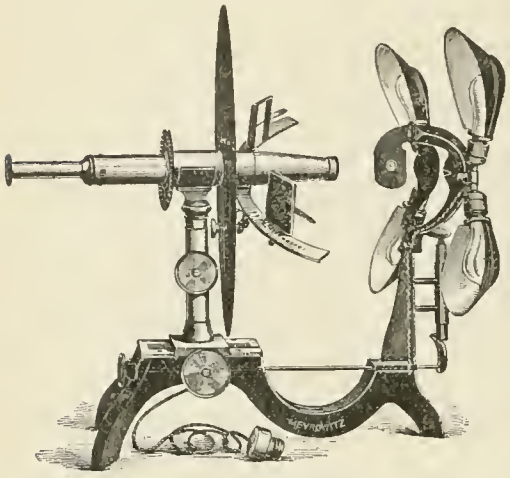

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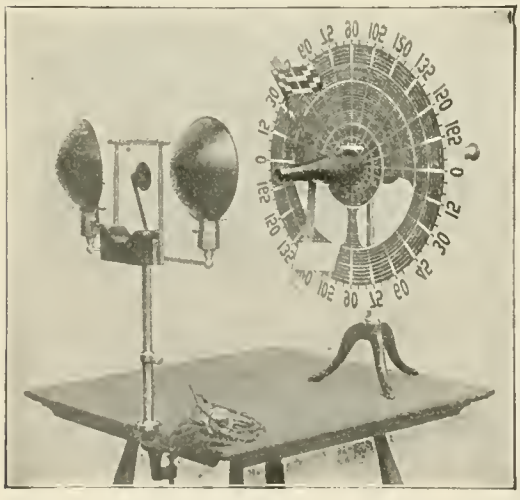

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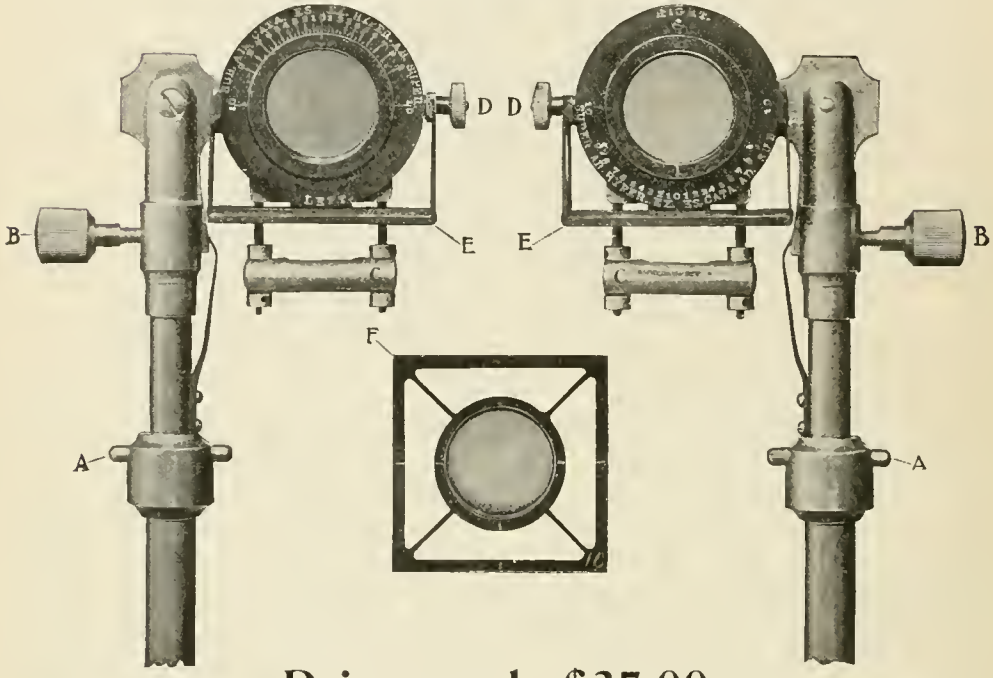

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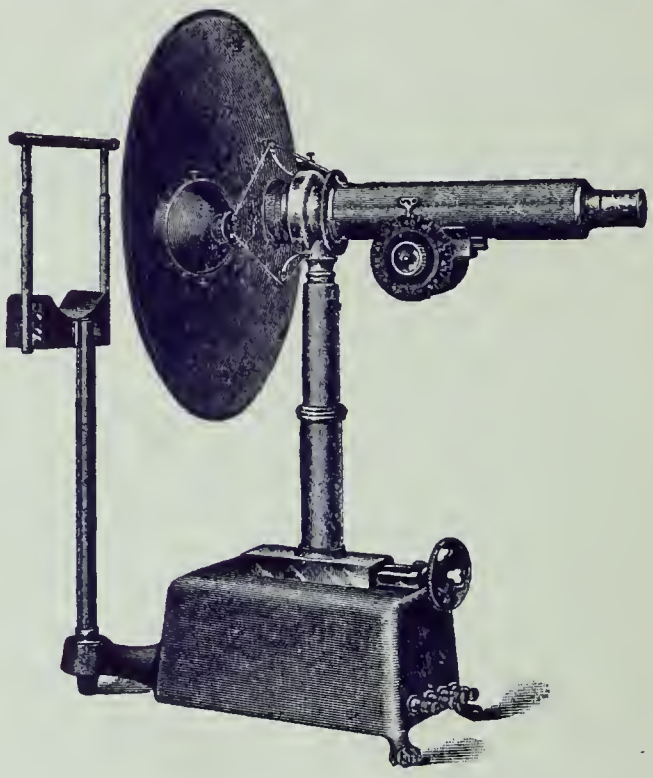

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